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6 CHAPTER 6: CONCLUSION



6.1 General discussion

The aim of this dissertation is to provide an in-depth understanding of the emergence, development, and growth of disruptive innovation. Specifically, it provides an understanding of the process of disruptive innovation as presented in extant literature, sheds light on the role of the entrant in manoeuvring a disruptive path in an interplay with incumbents, other market actors, and context conditions, and extends our understanding of incumbents' ability to transform their organisations in the face of potential disruption. It develops these insights by taking a process perspective to disruptive innovation, following a grounded theory approach and tracing back on developments over time. The general sensemaking logic was one of abduction, hence, the resulting contributions followed from a broad idea and refining this idea by circling back and forth between the data and useful theoretical frameworks (Gehman et al., 2018; Langley et al., 2013). The results are embedded in the theoretical streams of disruptive innovation, strategic alliance, platform, and identity and strategy literature.

The following sections will shortly revert to the previously identified recent developments and current debates in the literature on disruptive innovation (Chapter 1.3) before discussing how the main findings of this dissertation contribute to these debates (Chapters 6.1.1 to 6.1.3). In addition, this dissertation provides a short outlook on predicting disruptive innovation to advance the theory of disruptive innovation and its management as demanded by previous researchers (Chapter 6.1.4) (e.g., Danneels, 2004; King & Baatartogtokh, 2015; Sood & Tellis, 2011; Yu & Hang, 2010). Finally, this dissertation reflects on theoretical and managerial implications, and ends with limitations and further research to advance our understanding of disruptive innovation as a process.

6.1.1 Disruptive innovation as a process: understanding the dynamics in-between

This dissertation opened with the debate as to whether disruptive innovation should be viewed as a process or as an outcome. While we can arguably state that it is necessarily both, a process and an outcome, the consideration of either shapes our inquiry, the methods we deem feasible to inquire, the theories we draw on, and the contributions to both research and practice we can make (Langley, 2007; Langley et al., 2013; Van de Ven & Poole, 2005).

Viewing disruptive innovation as leading to incumbents' failure lends itself to understanding disruptive innovation as an outcome (Christensen et al., 2018). We can identify correlations, that is, incumbents succeed in sustaining innovation and fail in disruptive innovation. And we can explain causal mechanisms, that is, incumbents fail to react due to constraints in their resource allocation (Christensen, 2006). And yet, while this understanding enables us to differentiate more precisely between the different types of innovation (Christensen, 1997; Dosi, 1982; Henderson & Clark, 1990; Tushman & Anderson, 1986) and provides managerial implications, such as the creation of a separate venture to circumvent the resource dependence in the core organisation (Christensen & Raynor, 2003; Gilbert, 2005), it does little to explain the dynamics that underlie the path towards disruption. As such, criticism arose as to the theory's predictive use in terms of which entrant with what business model will disrupt which industry at what time (Danneels, 2004; King & Baatartogtokh, 2015; Markides, 2006).

To respond to this criticism, Christensen and colleagues (Christensen et al., 2015, 2018) took great care to clarify and describe the process in more detail. In essence, Christensen et al. (2018) clarified that "an innovation can be disruptive regardless of its outcome" (p. 1072). The process of disruptive innovation describes how an entrant begins by offering an inferior product or service to a fringe customer group, develops this offering over time, and eventually appeals to customers in the

mainstream. Once these customers purchase the entrant's offering, disruption occurs (Christensen et al., 2015). This description provides a sequence of steps that does not acknowledge the underlying dynamics that shape the process in-between. In fact, it describes a performance improvement from the niche (A) to the mainstream (B) but does little to explain how to move from A to B (Langley et al., 2013). This dissertation challenges this view by explicitly taking a process view to study the evolution of disruptive innovation and emphasising its emergence, development, and growth over time.

By taking a process view, we open ourselves up to the messiness of everyday life (Tsoukas, 2017; Tsoukas & Chia, 2002) and acknowledge change as a succession of movements of an entity over time (Langley et al., 2013). As such, studying disruptive innovation from a process view allows us to provide an understanding of how the patterns that lead to outcomes come to be. This is arguably more relevant for practitioners and provides guidance on how to improve performance (Langley, 2007). In essence, we move closer to capturing, describing, and explaining how entrants move from A to B, how the interplay between entrants, incumbents, and other market actors influences this movement, and how incumbents can or cannot react to disruptive developments that emerge, develop, and grow over time.

In this view, Chapter 2 proposes that the process of disruptive innovation is not a linear progression from niche to mainstream, but rather conceptualises it as a disruptive path from the initiation, to the niche, to the mainstream that is influenced by the timing and temporal pacing of underlying developments in technologies, knowledge, and regulatory requirements. In alignment to insights from the innovation journey (Schroeder et al., 1986; Van de Ven, 2017; Van de Ven et al., 1999) and the understanding of innovation as a process (Garud et al., 2016), the role of synchrony, asynchrony, and diachrony gain relevance. Chapter 2 further proposes to pay attention to and research the dynamics in-between, that is, the actions performed by the entrant, the incumbent, and other market actors that form recursive events and decide the

innovation's final effect on the mainstream. This shows the relevance of understanding disruptive innovation in more dynamic terms and stresses the idea of "potential disruption" when describing innovations with disruptive characteristics that have entered the niche and are on their way to the mainstream. To explain how the insights from the previous chapters may enrich our understanding of disruptive innovation as a process, we can draw on our insights from the emergence and development of potential disruption in the German automobile industry from an incumbents' perspective (Chapter 5) and the development and growth of potential disruption in the German insurance and retail industry from an entrant's perspective (Chapter 3 and 4):

Considering the emergence and development of potential disruption in the German automobile industry, we observed that disruptive technologies and business models began to emerge in fringe markets in the automobile industry from 2004 onwards, driven by universities, new entrants, and incumbents that were taking advantage of new technologies and changing customer needs. Upon the first wave of potential disruptive technologies (i.e., autonomous driving and connectivity technologies), automobile incumbents began to experiment, spun-off new ventures, and began to acquire and ally with start-ups (Chapter 5). Given recent publications in disruptive innovation literature, this active response is something we would expect (Ansari et al., 2016; Cozzolino et al., 2018; Gilbert, 2005; Zietsma et al., 2018). The responsive actions were largely motivated by consultants, media, and industry analysts emphasising the disruptive character of these start-ups and drawing bleak pictures for industry incumbents that remained inactive (McKinsey Report, 2016a). The heterogeneity of response actions can partly be explained by incumbents' interpretation differences, that is, differences in interpretive schemes that lead to differences in the abilities to enact strategic renewal (e.g., Anthony & Tripsas, 2016; Kammerlander et al., 2018; Tripsas, 2009).

Yet, the progression of these early developments was slow, and successes were meagre. While venture capitalists supported some start-ups and some corporate entrants

and incumbents invested heavily, several new entrants and incumbents halted their developments as growth was too slow and they could not sustain operations (McKinsey Report, 2016a, 2019a). The slow progress was due to delays in underlying technologies and the hindering effects of regulatory requirements that either were not yet developed, not sufficiently advanced, or not prepared to support the entrants' technologies or business models (Ansari & Krop, 2012; Christensen et al., 2018; McKinsey Report, 2016a, 2019a). As the speed of the disruptive innovation decreased and several entrants terminated their operations, incumbents' perception of a disruptive threat lessened over time (Financial Times, 2019a; McKinsey Report, 2016a). As such, they stopped resource allocation into disruptive projects, which is in line with disruptive innovation literature (e.g., Bower & Gilbert, 2005; Christensen, 1997; Cozzolino et al., 2018). Chapter 5 further suggests that these decisions may follow from an inability of some incumbents to provide meaningful sensegiving narratives in form of alternative identity claims that could sustain resource commitments despite difficult times. In fact, by failing to connect the learning initiatives in a meaningful way to the organisation's past while proposing a direction into the future, incumbents' attempts at transformation were short-lived and needed to yield to pressures from the organisation's daily business and core identity (Chapter 5).

However, underlying technologies continued to develop, new regulatory requirements were initiated, entrants continued to develop and grow their businesses, and new business models emerged, especially technology platforms that provide fertile grounds for new entrants (Financial Times, 2019a; McKinsey Report, 2019a; Nikkei Asian Review, 2020). Thus, while the disruptive threat somewhat lessened over time, understanding disruptive innovation as a process and considering elements of synchrony, asynchrony, and diachrony could now provide necessary insights into the potential developments within these industries. Terminating relevant learning initiatives could be a hasty decision. Essentially, continuing the experimentation and developing the necessary capabilities could provide incumbents with a head-start in a changed industry. But unfortunately, as the first round of disruptive new entrants

was slow to progress, the new wave of developments is not taken seriously and rather than continuing to learn and experiment, major automobile incumbents turned away from what may become the future of their industry (Financial Times, 2019a; Nikkei Asian Review, 2020). This may lead to errors of omission (Kumaraswamy et al., 2018) that could well lead to the failure of major incumbents in a critical industry in Germany.

In fact, observing the development and growth of disruptive new entrants in the insurance and retail industry, we learn that entrants can to continue their development trajectories along their disruptive paths despite slow growth or competitive pressure from incumbents or regulators. In fact, by strategically configuring and reconfiguring alliance portfolios of powerful partners unaffected by disruption, entrants gain access to resources, reputation, and relationships of more established firms. They thereby become less dependent on incumbents' support, can withstand competitive pressure, and even endure situations of slow growth (Chapter 3). As such, we show how entrants develop social and timing defence mechanisms (e.g., Hallen et al., 2014; Katila et al., 2008) to continue along a disruptive path while remaining under the radar and await opportunities of synchrony to further propel towards the mainstream market. This dynamic becomes even more forceful when these alliance portfolios are configured in open platform models (Chapter 4). By developing and growing platforms with partners and complementors unaffected by disruption, entrants develop into strong competitors and incumbents may be forced to join as complementors. Over time, this may lead to a shift in incumbents' business models. This supports the idea that platform business models are strong vehicles for disruption (e.g., Downes & Nunes, 2014; Ozalp et al., 2018; Trabucchi et al., 2019) but goes further in showing how these platforms can disrupt industries by conceptualising and building alliance networks of partners unaffected by disruption.

The previous examples of incumbents' response to potential disruption in the automobile industry and entrants' strategies in the insurance and retail industry stress the

consideration of the non-linearity of the disruptive process. In fact, the process is performed by entrant's continuous business model reconfiguration in an interplay with unaffected partners, incumbents, regulators, and underlying technological developments (Chapter 3 and 4) and is shaped by incumbents' cognitive interpretations and strategic (re-) actions (Chapter 5). While incumbents initially responded to the threat of disruptive innovation, they disengaged and reverted to former ways of being and doing once the observed and perceived developments slowed down, and the proposed disruption did not materialise in a short time (Chapter 5). In contrast, entrants continue to develop their business, albeit slowly and depending on the support of partners unaffected by disruption and the development of underlying processes (Chapter 3 and 4). Previous research showed that innovation requires continuous reconfiguration (Garud et al., 2016; Schumpeter, 1942; Usher, 1954). As such, a careful observation and study of the continuous reconfiguration of the entrant's business model in an interplay with relevant partners, technologies, and context conditions along the disruptive path may draw a more realistic picture of disruptive innovation and the dynamics in-between. If we only observe the outcome or certain points in the process of disruptive innovation, we may miss these developments.

As such, to research and manage in an "era of continual disruption" (Kumaraswamy et al., 2018, p. 1026) requires a consideration of performance over time. We need research that emphasises "the disruptive path" or "potential disruption". Yet, upon beginning this dissertation, these concepts have only been proposed by a minority of researchers (Ansari et al., 2016; Hüsiger et al., 2005; King & Baatartogtokh, 2015). This made it difficult to choose a set of cases to explore the process of disruptive innovation, as the biggest limitation was the problem of "what would happen if the entrant does not disrupt the industry?" While this question is still relevant today and we did have attrition of sampled cases due to exits during or after the initiation phase, some of our studied cases are still in the niche phase and are yet to gather speed towards the mainstream market. As such, they did not yet achieve disruption. Nevertheless, their business models show disruptive characteristics, their strategies are

those of disruption, and their paths have been disruptive ones. Studying their progression, the activities and events and comparing this to other potential and successful cases of disruptive innovation provides us with relevant insights. And thus, while we follow Snihur et al.'s (2018) statement that disruptive innovations only become observable over time, we do see opportunity for studying a disruptive innovation in-becoming.

The following paragraphs provide a more in-depth description of the entrants' continuous reconfiguration of the business model in performing disruptive innovation and the relevance of the recursivity of incumbents' cognition and strategy in shaping the process of disruptive innovation.

6.1.2 Performing the process: the entrant's ability to circumvent the disruptor's dilemma

While previous research focused on incumbents' failure in the face of disruptive innovation, the role of entrants remains largely undertheorised (Kumaraswamy et al., 2018). In fact, while the innovator's dilemma received increasing attention from scholars and practitioners over time (Christensen et al., 2018), the disruptor's dilemma requires further investigation (Ansari et al., 2016). The traditional focus on incumbent's failure is explainable by the interest of Christensen to account for the failure of leading incumbents in the hard disk drive industry (Christensen, 1997). But recent research increasingly emphasised the role that both actors play in shaping disruptive innovation over time (Christensen et al., 2018; Hopp et al., 2018; Kumaraswamy et al., 2018). Indeed, without the emergence, development, and growth of disruptive new entrants, incumbents could continue to innovate in a sustaining fashion along their existing trajectories for a long time. As such, the story of disruptive innovation requires a challenger that can capture a significant share of the value by innovating along an alternative value trajectory. Thus, both actors are necessary for a disruptive innovation and the path of each is influenced by the actions of the other (Chapter 2). This draws attention to the relational perspective on disruptive

innovation and requires a consideration of the dynamic interplay between the innovator's and the disruptor's dilemma (Kumaraswamy et al., 2018). As the incumbent's perspective has received ample attention in previous publications, this dissertation focuses on this interplay from the entrant's perspective.

In fact, new entrants oftentimes face a liability of newness and/or smallness upon entering the industry (Ansari et al., 2016; Baum et al., 2000; Katila et al., 2008; Stinchcombe, 1965). As such, they are dependent on a network of partners that can supply critical resources, reputation, and relationships to develop and grow the envisioned business model. Indeed, we found that the entrant has difficulties to muster the resources to develop in-house and simultaneously increase the speed of innovation when necessary (Chapter 2). This network may, at one point, include the incumbents which the entrant stands to disrupt (Ansari et al., 2016). As entrants may depend on the resources and the market access that incumbent partners provide, they may yield to the competitive pressure and shape their business model in a sustaining way. Thus, a cooperation with incumbents dissuades entrants from the disruptive path (Ansari et al., 2016; Cozzolino et al., 2018; Marx et al., 2014). Yet, this regards entrants as targets that have little to hold against incumbents' pressure. In contrast, we followed studies by Snihur et al. (2018) and Lawlor and Kavanagh (2015) in Chapter 3 and 4 and suggest that entrants, as proactive actors, have unique strategies to create and develop their business models along a disruptive path.

Drawing on literature on strategic alliances (Chapter 3) (e.g., Baum et al., 2000; Hallen et al., 2014; Katila et al., 2008) and platform literature (Chapter 4) (e.g., Downes & Nunes, 2014; Ozalp et al., 2018; Trabucchi et al., 2019), we show how entrants configure an alliance portfolio of partners unaffected by disruption that help to alleviate incumbents' pressure during the entrant's development. In fact, by strategically configuring a portfolio of partners whose interests are more aligned with the entrant, the entrant gains access to resources, reputation, and relationships of more established firms. This allows to overcome situations of slow growth, attract additional

partners, and increase the entrant's relative bargaining power (Chapter 3 and 4). In fact, we identified that the entrant strategically stacks its alliance portfolio and thereby holds off incumbents' strategic interference for as long as possible during the initiation and niche market phase (Chapter 3). In addition, by configuring these partners unaffected by disruption in an open platform model, these dynamics become more forceful in propelling the entrant along a disruptive path (Chapter 4). Further, these platform models open the industry to additional new entrants that can now use the entrant's disruptive platform as a steppingstone into the industry.

Yet and in line with previous research, the entry into the mainstream market requires an interplay with incumbents that can be competitive or cooperative (Ansari et al., 2016; Marx et al., 2014), depending on the entrant's strategy and the incumbents' perception and expectation (Chapter 2). By anticipating this encounter in advance, we identified that entrants guard against misappropriation and competitive pressure by using what studies on strategic alliances have termed social and timing defence mechanisms (Hallen et al., 2014; Katila et al., 2008). For instance, the entrants strategically applied social defences by using the parents' or venture capitalist partners' strength to keep incumbents' equity investments in check. This allowed the entrant to benefit from the additional financial resources but limited the incumbent's ability to influence the entrant's strategy (Chapter 3). Additionally, we identified that entrants used partners unaffected by disruption as intermediaries between themselves and incumbent partners to limit the competitive pressure. Further, by relying on resources, reputation, and relationships of partners unaffected by disruption, the entrant could apply timing defence mechanisms by actively suspending partnerships with incumbents during the initiation and niche market phase. When suspending incumbents' influence was impossible, due to, for example, regulatory requirements, the entrant reverted to social defence mechanisms to reduce incumbents' influences on the entrant's business model (Chapter 3).

Chapter 3 and 4 thus contribute to disruptive innovation literature by conceptualising the entrant as a strategic actor that manoeuvres the dynamics that occur along the disruptive path. By using the strength of partners unaffected by disruption and strategically (re-) configuring an alliance portfolio that provides access to resources, reputation, and relationships akin to established players during the initiation and niche market phase, the entrant increases its bargaining power. Thus, when faced with the disruptor's dilemma, the entrant can continue along its disruptive path despite an interplay with incumbents.

These insights stress the role of the entrant's network, which extends the phenomenon of disruptive innovation to include not only the customer, the entrant, and the incumbent, but other actors (e.g., venture capitalists, start-ups, incumbents from outside the industry, parents, and regulators) that take on a decisive role in shaping the disruptive path. The availability of these actors needs to be considered in order to assess the viability of disruptive innovation and its emergence, development, and growth. In fact, by including additional actors in its network, the entrant can substantially speed up or slow down the process and make disruption more or less likely. We argue that this advances our understanding of the relational view and provides knowledge on how entrants develop and grow disruptive innovation over time.

6.1.3 Shaping the process: the recursivity of incumbent's cognition and strategy in overcoming the innovator's dilemma

While the entrant is the focal actor in performing the process of disruptive innovation, the incumbent has a decisive role in shaping its occurrence over time. In fact, when incumbents decide to react to the emergence, development, and growth of disruptive innovations, previous research showed that this may shape the disruptive innovation into a sustaining way (Ansari et al., 2016; Christensen & Raynor, 2003; Cozzolino et al., 2018; Gilbert, 2005). However, incumbents' responses to disruptive innovation are constrained by strategic considerations of resource availability and allocation (e.g., Bower & Christensen, 1995; Christensen et al., 2018; Christensen &

Raynor, 2003). As such, researchers foregrounded strategic renewal as a way for incumbents to respond to disruption. This involved the development of structurally separated internal or external ventures to take advantage of the opportunities of disruptive innovations whilst avoiding a status-quo reversion due to resource dependent resource allocation processes (Burgelman, 1983; Christensen & Raynor, 2003). Over time, researchers began to surface anomalies that showed incumbents as capable of responding to disruption by experimenting with disruptive technologies and allying or acquiring disruptive new entrants (e.g., Christensen & Raynor, 2003; Cozzolino et al., 2018; Gilbert, 2005). This led to an extension of disruptive innovation theory by emphasising the role that interpretive schemes play in incumbents' response to disruptive developments. Especially the role of the organisational identity as a prominent and widely shared cognitive belief system (Ashforth & Mael, 1996; Whetten & Mackey, 2002) captured researchers interest.

Thus, incumbents may not only be required to adapt their strategy but further might need to change their identity to enable a timely and adequate response to disruption (Anthony & Tripsas, 2016; Kammerlander et al., 2018; Tripsas, 2009). Yet, while previous research in disruptive innovation has largely examined the role of strategy (Christensen, 1997; Snihur et al., 2018) or identity (Anthony & Tripsas, 2016; Kammerlander et al., 2018), we show that a successful response requires a simultaneous consideration of strategy and identity and a mindful transformation of both to avoid dysfunctional tensions (Chapter 5).

By investigating incumbents' transformation in the German automobile industry, we show that similarly well-embedded original equipment manufacturers transformed their organisations at different times and in different ways to respond to the emergence of connectivity, autonomous driving technologies, and shared mobility business models (Chapter 5). We identified that incumbents first learn about disruptive developments by experimenting in heavyweight teams, spin-offs, and through the acquisition of start-ups and alliances with universities and research centres. This

confirms literature on disruptive innovation that incumbents initially experiment with disruptive innovations in internal or external ventures (e.g., Christensen & Raynor, 2003; Cozzolino et al., 2018; Gilbert, 2005) and supports previous studies in strategy and identity that actors probe the future through learning (Bojovic et al., 2020; Brown & Eisenhardt, 1997; Corley & Gioia, 2003; Kaplan & Orlikowski, 2013). Yet, we further show that these learnings surfaced new insights and questioned previously held assumptions about future directions. As such, the early learning initiatives opened alternative paths and began to diverge from the organisation's core strategy and past trajectories (Garud & Karnøe, 2013).

This divergence confronted the organisation's claimed belief about "who we are, as an organisation" (Whetten & Mackey, 2002). To give sense and legitimise this divergence from the core, Chapter 5 identifies that incumbents' top management evoked alternative identity claims that combined the past with a direction for the future through temporal sensemaking (Gephart et al., 2010; Wiebe, 2010). In fact, our study shows that without such alternative identity claims, the strategic renewal directly confronted the core identity of the organisation, which led to a crisis or a reversion to previous ways of doing and being. Our concept of alternative identity claims connects to previous research on identity as a powerful sensemaking and sensegiving tool to direct identification, interpretation, and action (Gioia & Chittipeddi, 1991; Schultz & Hernes, 2013). In fact, framing the divergence from the core did not necessitate a new identity but rather required evoking a narrative that uses the organisation's past to make the future appear as something which the company has always done. This gave sense to the continuation along a new path.

Although outside the scope of Chapter 5, subsequent developments at Daimler and BMW support our analysis of the role of alternative identity claims. In fact, a change in CEO in mid-2019 in both companies led to the termination of the communication of alternative identity claims (i.e., "pioneering mobility provider" (Daimler) and "mobility service provider" (BMW)) as sensegiving narratives to legitimise

exploration units. Daimler and BMW both began to foreground their identities of being automobile companies in mid-2019 and reverted to a focus on efficiency and propulsion technologies rather than shared mobility business models (Financial Times, 2019a). This led to the gradual phasing out of disruptive projects, the termination of the companies' joint venture ShareNow in North America, and the reduction of resources allocated to the exploration units (Bloomberg, 2019). While we do not argue that the discontinuation of the alternative identity claims was the sole reason for the termination of the future-oriented strategy, we do propose that without such sensegiving mechanisms a divergence from the core identity and strategy lacks legitimacy and may be more at risk of a status-quo reversion.

We thereby contribute to disruptive innovation by proposing that incumbents' response to disruption necessitates a change in strategy *and* identity. Yet, while previous research has largely discussed identity as an interpretive frame to make sense of disruptive developments (Kammerlander et al., 2018; Tripsas, 2009), we build on an understanding of identity as an enduring guide that specifies appropriate behaviour (Anthony & Tripsas, 2016). We connect to Schultz and Hernes (2019) that any action disconnected from the organisation's core identity may be considered illegitimate and may be terminated. Thus, considering identity as a cognitive frame that gives sense to strategy and the necessity to keep strategy and identity aligned during strategic renewal (Ravasi et al., 2017; Ravasi & Phillips, 2011; Schultz & Hernes, 2019) allows us to propose that a structural separation may not be enough to respond to disruptive innovation. In fact, organisations may need to evoke powerful narratives from the past that provide a direction for the future to give sense to structural separation activities. Thus, alternative learning trajectories require alternative identity claims to create and sustain legitimate exploration units that probe a potentially disruptive future. This may make incumbents more adept at identifying and acting on disruptive innovations, which, in turn, may shape the process of disruptive innovation.

6.1.4 The limitation of predicting disruption

In recent times, the concept of disruptive innovation has increasingly gained awareness, as different start-ups proved the concept and how it emerges, develops, and grows over time in different industries in similar ways (e.g., AirBnB, Spotify, Wirecard, N26, Lemonade). This has led to a rise in scholarly publications (Christensen et al., 2018) and consultancies to publicise whitepapers how to *predict* and *prepare* for disruption (e.g., Hagel et al., 2016; McKinsey Report, 2019a).

And yet, while the phenomenon of disruptive innovation is intriguing for researchers and managers alike, we find inconsistencies in the understanding and use of the term and its underlying theoretical concepts (Christensen et al., 2018). For researchers, disruptive innovation describes a process of change from one value trajectory to another with the effect of incumbents being replaced by new entrants with different formulas for value creation, delivery, and capture (e.g., Christensen et al., 2006; Cozzolino et al., 2018; Kumaraswamy et al., 2018). For managers, the concept of disruptive innovation is oftentimes connected to the threat of new technologies and new competitors that offset current ways of working and challenge the industry's status-quo in a revolutionary and speedy fashion (e.g., Christensen et al., 2018; Downes & Nunes, 2014; Trabucchi et al., 2019). Hence, disruptive innovation has often been mistaken to be a quick displacement of the status-quo. And while research showed that the speed of disruptive developments can differ between industries (Christensen et al., 2018) the outcome of these developments can be disastrous for those unable to adequately identify, interpret, and act on disruptive developments in their environment.

Given this negative outcome for incumbents, researchers and practitioners have asked for a way to predict disruption (Danneels, 2004; King & Baatartogtokh, 2015; Sood & Tellis, 2011; Yu & Hang, 2010). While Christensen's initial and subsequent advancements to the theory of disruptive innovation can explain that incumbents fail when faced with a disruptive innovation and further provide explanation as to why

they fail (Christensen et al., 2006), the outcome of interest changed towards predicting which entrant with what business model will upset what industry at what time (Danneels, 2004; King & Baatartogtokh, 2015). As such, several researchers engaged in the puzzle of *how to predict disruption* (e.g., Danneels, 2004; King & Baatartogtokh, 2015; Klenner et al., 2013; Sood & Tellis, 2011). This led to different views regarding the underlying causal mechanisms of disruptive innovation (e.g., Danneels, 2004; Markides, 2006; Tellis, 2006) and different tools and methods to identify and react to disruptive innovations early on (Hüsigg et al., 2005; Klenner et al., 2013; Rafii & Kampas, 2002).

Other researchers critiqued this approach to prediction, arguing that incumbents are ill-equipped to see disruptive innovations in the first place (Henderson, 2006), are unable to make sense of it even when they see it (e.g., Anthony & Tripsas, 2016; Danneels, 2011; Kammerlander et al., 2018; Lettice & Thomond, 2008; Tripsas, 2009), and are incapable of reacting to it in an adequate and timely manner (e.g., Christensen et al., 2018; Gilbert, 2005; Snihur et al., 2018). As such, incumbents are unlikely to benefit from any predictions (Garud et al., 2018; Kumaraswamy et al., 2018).

This dissertation attempts to provide an outlook on this debate based on the insights from Chapter 2 to 5 and recent publications in the field of disruptive innovation (e.g., Cozzolino et al., 2018; Kammerlander et al., 2018; Kumaraswamy et al., 2018; Snihur et al., 2018). Taking these learnings and the overarching perspective of this dissertation into consideration, we would agree with the latter understanding of a limited benefit that comes from predicting disruption. First, disruptive innovation is a process that emerges through the co-creation of several actors involved within and across industries with different conditions, capabilities, and cognitions shaping the phenomenon over time. Thus, the process is created, re-created, and un-created by different, socially embedded and materially embodied actors who attempt to make sense of the unfolding process (Bruner, 1986; Garud et al., 2018, p. 61). As such,

disruptive innovation is continuously in the making, or “*becoming*” (Tsoukas & Chia, 2002, p. 570), with no definite start- or endpoint and an inherent complexity (Van de Ven, 2017) that make attempts to grasp it “*in flight*” (Pettigrew, 1992, p. 11) rather uninformative.

Following this scholarly understanding, a prediction of disruption is unlikely to yield the necessary information that incumbents require or yearn for in order to make their strategising less ambiguous. For instance, if one would argue that German automobile companies are going to disappear and be replaced by Google, Apple, Tesla, and Co., nobody would have considered this likely, let alone engage in the thought of autonomous vehicles, which rather belonged in the realms of science fiction (WSJ, 2018). Today, the idea is not as absurd, as German companies changed from automobile manufacturers to mobility providers and the threat of large tech companies encroaching on the automobile industry appears imminent (Financial Times, 2019a; McKinsey Report, 2019a). Who will win this race is still unknown. In a similar vein, challenger banks that offer online payment and online banking such as Apple Pay and N26 have largely re-defined how we understand and what we want from banking (e.g., Economist, 2019; Financial Times, 2018; WSJ, 2019a). Several years ago, who would have supposed that customers would trust a pure online player with their banking details (e.g., EIU, 2015)? And yet, it is becoming reality.

These cases make but one point: the understanding of what is possible changes with every event and action that actors engage in, be it industry incumbents, new entrants, or other market actors (Chapter 3 and 4). As such, industries and organisations are in a constant state of *becoming*, which ultimately shapes their capacity to identify, interpret, and act on disruptive changes. Throwing the line too far and predicting an outcome from the current point of view is unlikely to result in meaningful information (Kumaraswamy et al., 2018). Reality is continuously constructed in an interplay of imaginations of actors involved. Indeed, the process of disruptive innovation is rather a performing of a vision (Garud et al., 2018) than deciding on a recipe and

following the proposed steps closely and obediently. As such, the process of disruptive innovation can be understood “not in terms of navigation but in terms of way-finding” (Nayak & Chia, 2011, p. 299).

Secondly, one could further question the ability to predict disruption in general. In fact, any prediction of disruption will most likely lead to a change in behaviour, which may change the predicted outcome. As such, any framework that is holistic enough to make a robust prediction by considering all the relevant factors and their inherent dynamism that shape a disruptive innovation over time, would be proven wrong when the disruptive effect does not materialise. In fact, given incumbents ability to respond to disruption in heterogenous ways (e.g., Christensen et al., 2018; Gilbert, 2005; Kammerlander et al., 2018; Snihur et al., 2018; Zietsma et al., 2018), one can assume that they would construct competitive countermeasures to prevent disruption from happening to their business models and their industries. Thus, disruption would not happen precisely because its occurrence was predicted.

Thus, strategising under these circumstances is, per definition, ambiguous and uncertain. Exploring and thus, risking and failing are ultimately part of this new context. However, not exploring and thus, not risking equally involves the possibility of failure. As boundaries blur, value trajectories are re-defined, and positions are re-negotiated, those that do not move or wait to move for too long may slowly float out of the picture or quickly become redundant, depending on the speed of change. Taking a conscious decision, imagining a future by reflecting on the past and performing in the present could be one way to deal with the uncertainty and ambiguity surrounding today's industries (Chapter 5). The performing in the present was found to involve adaptive strategising (e.g., Brown & Eisenhardt, 1997; Garud & Karnøe, 2013; Kaplan & Orlikowski, 2013) or a “disruptor’s gambit” (Snihur et al., 2018, p. 1280). The idea is to be able to flexibly adjust one’s path given the circumstances that continuously evolve around the organisation (Chapter 2), partly being shaped by oneself but partly being not of one’s own making.

From this point of view, what was, what is, and what will be is rather a product of collective imagination and action rather than a predetermined point in time. Thus, to predict disruption means to imagine a future, building on the past while performing in the present. However, these imagined futures might just provide a starting point to *make sense* of an ever-changing environment while admitting that these imagined futures look different tomorrow still.

6.2 Theoretical implications

From the foregone discussion, we can distil some theoretical implications for our understanding of disruptive innovation as a process and its emergence, development, and growth over time. Previous literature has largely regarded the process of disruptive innovation as a step-by-step evolution without providing insights into the dynamics that shape its occurrence over time (Christensen et al., 2018; Kumaraswamy et al., 2018). This dissertation provides a more holistic picture by surfacing the role of temporality in shaping the dynamics of underlying processes, the relationality between the entrant as the focal actor, the incumbent, other market actors, and relevant context conditions, and the role of incumbents' interpretation and action on disruptive innovation (Chapter 2 to 5).

In fact, emphasising *temporality* and *dynamisms* allows to understand and research disruption in-becoming and to explore the dynamics in-between. We can study potential disruption and entrants that manoeuvre along the disruptive path and identify moments of diversion and conversion, situations of synchrony, asynchrony and diachrony, and the value of performing disruptive innovation over time. We thereby connect the literature on disruptive innovation to long-standing research traditions on the innovation journey and innovation as a process that emphasise temporality and process (Garud et al., 2016, 2018; Langley et al., 2013; Schroeder et al., 1986; Van de Ven, 2017). We see this dissertation as a first step towards surfacing how a temporal and processual perspective on disruptive innovation can help in understanding and managing disruptive innovation.

For research, this means that we can embark on new research trajectories with new perspectives, new methodologies, and new theories. We can observe disruption in-becoming, that is, potential disruption and the disruptive path without being dependent on its outcome. Just as the creation of an innovation in-becoming deserves attention, studying disruptive innovation from a process perspective allows us to move closer to what is experienced by practitioners on a daily basis (Langley et al., 2013; Tsoukas, 2017; Tsoukas & Chia, 2002). Studying a disruptive innovation in-becoming allows us to immerse ourselves more deeply in the context, enables to take an ethnographic approach and thus opens new theories, such as strategy-as-practice or organisational identity. This could develop disruptive innovation from a theory that provides know-that type of knowledge. In fact, previous literature informed us *that* entrants move from niche (A) to mainstream (B) and that incumbents remain inactive because of resource allocation problems (C) but can overcome these problems by performing strategic renewal (D). By studying disruptive innovation from a process view, we can offer know-how type of knowledge and provide insights into *how* to move from A to B and how to actually perform D and whether D is sufficient to overcome C (Langley, 2007). Although the knowledge that entrants disrupt and incumbents get disrupted is a relevant insight, it is a simplification of reality that may – if taken for granted – lead to wrong assumptions and false strategies (Christensen et al., 2018). As such, following a disruptive innovation project over time enables us to surface *how* to perform the activities that management theorists consider desirable (Langley et al., 2013). Further research is required that explicitly acknowledges the role of temporality, different tempos, and becoming. In fact, while this dissertation was tracing back in time to study disruptive innovation as a process, we propose that future research could explore the disruptive path by following forward. This may ultimately develop a more fine-grained understanding of the developments of disruptive innovation and could surface relevant microfoundations (see also, e.g., Kumaraswamy et al., 2018).

We further follow Kumaraswamy et al. (2018) in that the understanding of the dynamics that are involved in the process of disruptive innovation may require a *relational perspective*. In fact, studying the entrant and its manoeuvring along a disruptive path surfaced the role that incumbents and other market actors (e.g., venture capitalists, other start-ups, incumbents from outside the industry, parents, and regulators) play in performing and shaping disruptive innovation. We draw on strategic alliance literature (e.g., Baum et al., 2000; Hallen et al., 2014; Katila et al., 2008) that provided relevant insights on start-up-incumbent interplays to explain our findings with regard to disruptive new entrants. We further borrow from platform literature (e.g., Gawer, 2009; Gawer & Cusumano, 2008; Parker & Van Alstyne, 2018) to explain the dynamics that occur when entrants aim to develop and grow a disruptive platform over time. These studies showed that entrants are strategic actors that build on resources, reputation, and relationships of third-party partners that are unaffected by the disruption to develop and grow along a disruptive path and guard against incumbents' pressure. This contributes relevant insights to the relational view on disruptive innovation from an entrant's perspective.

However, this leaves open a consideration of the relational dynamics from an incumbent's perspective. In fact, our research shows that incumbents tend to respond to disruption by learning through alliances, acquisitions, and experiments in structurally separated ventures. Thus, incumbents' ability to react to disruption seems to be related to the availability of start-ups and new entrants and their willingness to cooperate. Further, incumbents may need to consider the role of new networks that form into ecosystems across industry boundaries and threaten to disrupt existing relationships (Kumaraswamy et al., 2018). In fact, comparing the network the entrant configures and reconfigures over time to the network on which the incumbent depends may provide interesting insights into network dynamics. This may ultimately develop our understanding of the relational view and inform our understanding of how the innovator's and the disruptor's dilemma influence each other and play out over time.

From such a relational perspective on disruptive innovation, a subsequent step involves considering the innovator's dilemma and how this dilemma shapes the process of disruptive innovation over time. Previous research explained the failure of incumbents by surfacing the role of resource dependence, resource allocation problems, and interpretive schemes that inhibit incumbents to respond to the emergence of innovations in fringe markets (Christensen, 1997; Christensen et al., 2018; Kammerlander et al., 2018; Tripsas, 2009). To this end, current disruptive innovation literature proposes to create structurally separated ventures to circumvent any rigidities in the core business and explore disruptive innovations in unencumbered ways (Burgelman, 1983; Christensen & Raynor, 2003; Gilbert, 2005). From our research, we propose that structural separation is effective in enabling incumbents to learn, but due to a recursive relationship between strategy and identity it may not suffice to allow for a continued effort to respond to disruptive developments. In fact, experimenting and learning about disruptive developments may question the very identity of the incumbent and may thus lead to status-quo reversion to avoid dysfunctionalities. To continue learning, incumbent top management may thus need to evoke sensegiving narratives, in the form of alternative identity claims, to extend the identity of the organisation to incorporate future visions that build on the organisation's past.

However, these sensegiving narratives are interpreted and negotiated between different hierarchical levels. In fact, our study showed the vulnerability of the alternative identity claims to changes in top management. Further research may explore the role of these alternative identity claims as negotiated between top management and the incumbent's employees to see whether these claims can become a shared understanding over time or whether these alternative identity claims are only temporary bridges between the core and the occasional appearance of initiatives that probe into the future.

6.3 Managerial implications

This dissertation offers several implications for entrepreneurs and managers of entrant and incumbent organisations by offering suggestions on how to manoeuvre along a disruptive path or how to transform the organisation in an adequate and timely manner to respond to emerging and developing disruptive innovations. We propose these implications first for entrants and then for incumbents by drawing on the previous discussions along the framework of disruptive innovation as a process, the disruptor's dilemma in an interplay with the incumbent's dilemma and other market actors, and the recursivity between strategy and cognition.

For entrants, this dissertation provides relevant practical suggestions by advancing from know-that to know-how type of knowledge. In fact, the innovator's dilemma as proposed and advanced by Christensen and colleagues (1997; 2018) provides reasons for incumbents' failure and shows a possible path into the mainstream for entrants. Yet, it did not articulate how to move along this path. Within this dissertation, we attempt to surface relevant mechanisms and patterns that may enable entrants to follow a disruptive path towards the mainstream (Chapter 3 and 4). The strategic manoeuvring along the disruptive path is essential as progress may be hindered by delays in underlying technologies on which the entrant's business model is based or regulatory requirements that may be unsupportive at times. In fact, when observing recent dynamics in industries such as banking, insurance, or automobile, we can see how the absence or asynchrony of underlying processes is slowing down or hindering disruptive developments. In fact, a delay in underlying technologies may make it difficult for entrants to sustain their operations.

As such, entrants become dependent on access to resources, reputation, and relationships to endure situations of slow growth. This dissertation surfaced the role of alliance portfolios that can provide this access for entrants. However, the composition and timing of such alliance portfolios becomes a strategic consideration to continue along a disruptive path. In fact, partnering with incumbents unaffected by disruption

for resources and reputation, tapping the resources, networks, knowledge, and reputation of venture capital firms, and collaborating with like-minded start-up firms to innovate may be a sensible first step. These partners can provide the entrant with the necessary resources, reputation, and relationships to enter the niche and manoeuvre along the disruptive path. Eventually, however, the entry into the mainstream market may involve partnering with the same incumbents that the entrant stands to disrupt. Yet, by having previously configured a strong portfolio of partners whose interest is more aligned with the entrant, the entrant may have gained in bargaining power and may be able to withstand incumbents' competitive pressure. This may allow the entrant to negotiate its way into the mainstream without dissuading from the disruptive path. As such, entrants should not only focus on providing a disruptive offer to a fringe customer group and then continuously improve this offering along a disruptive path. Rather, entrants should pay attention and strategically reconfigure a portfolio of partners that enable the entrant to improve its offering while enduring slow growth and incumbents' competitive pressure.

In addition, this dissertation further surfaced the role of disruptive platforms. In fact, the role of platforms extends the foregone implications on the role of partnering for disruptive innovations. Entrants can benefit from the role of a strong partner unaffected by disruption to circumvent the initial chicken-and-egg problem and provide first in-house complements to develop the entrant's platform and attract first complementors and users. In addition, the entrant can strategically leverage the role of "force multipliers" to propel the entrant forward and further extend the platform's reach among relevant customers and complementors. Eventually, the entrant can "build on others" that are unaffected by disruption by offering their complements and benefiting from their reputation to grow the platform. At the point in time when the entrant needs to persuade the incumbents to join, the entrant's platform has already grown in strength that make a competition difficult. As such, platforms provide interesting vehicles for disruption as they enable a winner-take-all dynamic

(Cennamo & Santalo, 2013; Gawer, 2009; Schilling, 2002) that gives the entrant an upper-hand when entering negotiations with incumbents.

For incumbents, this dissertation also offers relevant implications by providing additional insights in incumbents' ability to adequately and timely respond to disruption. In fact, this dissertation shows that incumbents can respond to disruption when made aware of technological or business model threats. This triggers a variety of responses (e.g., experimenting, allying, acquiring) to learn about the disruptive developments. However, once the tempo of the disruptive developments decreases, the incumbents' threat perception diminishes, resource and routine rigidities become more forceful, and errors of omission may occur (e.g., Christensen et al., 2018; Gilbert, 2005; Kumaraswamy et al., 2018). This dissertation shows how incumbents that failed to provide relevant legitimisation to the initial learning activities may now stop experiments, alliances, and sell off previous acquisitions and revert to their core business. However, such a reversion to the status-quo may prove to be fatal.

In fact, this dissertation shows that disruptive innovation is not a big-bang event, it is not a revolution but rather an evolution that is hard to predict as it is continuously performed by the relevant actors involved and influenced by the temporality of underlying developments that shape a diachronic process of emergence, development, and growth. As such, we propose that incumbents may need to adopt a process view to interpret disruptive developments. While this may enable them to engage more with the socially embedded side to organisational life (Reinecke & Ansari, 2017, p. 8), it may become more difficult to rely on prediction and control (Thompson, 2011). Seeing disruptive innovation as entrants that 'muddle through', considering the diachronic development patterns, and the process as performed by the actions and reactions of various actors that may be unrelated to the industry ultimately draws a more realistic picture.

However, this dissertation surfaces that incumbents understanding of these developments is shaped by their identity and strategy. As such, even if incumbents can

consider disruptive innovation as a continuously performed process, it may still be difficult to sustain a response once the threat perception decreases. In fact, while the spinning-off of new ventures, the building up of internal innovation units, or alliances and acquisitions of entrants allow incumbents to embark on a learning trajectory that may eventually enable a strategic renewal, this learning trajectory needs legitimising to withstand internal pressure and external difficulties. Here, a strong sensegiving narrative that provides an alternative identity claim that encompasses the disruptive developments might provide the necessary legitimacy. However, these alternative identity claims are fickle and may be abandoned by top management when changes occur. Although this dissertation was unable to provide relevant strategies to make these claims more enduring, it may prove fruitful to ensure a shared understanding of these claims rather than to merely evoke them in official communication. This may be achieved through engaging in internal developments and long-term transformation projects that foster these alternative identity claims. However, it takes time to achieve such shared understanding (Gioia et al., 2013). Thus, incumbents may be advised to engage in long-term strategising when deciding to transform their organisations. This may further involve an open communication of this transformation to relevant stakeholders that may otherwise pressure the organisation into reverting to its status-quo once performance becomes unsatisfactory.

6.4 Limitations and further research

This dissertation has theoretical as well as methodological limitations.

By following a process perspective, this dissertation focuses on how events and actions play out over time that necessitates a deep immersion in the processes of emergence, development, and growth of disruptive innovations (Gehman et al., 2018; Langley, 1999; Van de Ven & Poole, 2005). Closely connected to this is the implication of collecting fine grained longitudinal qualitative data, attempting to develop theory from the ground up, and drawing on theories that account for a dynamic progression over time (Langley, 2007; Langley et al., 2013). As such, this dissertation

does not attempt to offer a generalisable understanding as provided by variance research, that is, the systematic patterns of relationships that surround organisational phenomenon in terms of dependent and independent variables (Langley, 2007; Mohr, 1982; Van de Ven & Poole, 2005). Rather, by emphasising processual dynamics and providing temporally embedded accounts of how certain patterns come to be, this dissertation provides an understanding of how to produce the changes that evidence suggests as desirable (Langley et al., 2013).

Yet, by taking a process view, this dissertation limits the generality of the theories that we derived from the research (Langley, 1999). In addition, process research is often critiqued to lack predictive power (Van de Ven, 1992). In fact, following a process perspective, this research is qualitative in nature, limited to dynamics in single cases or embedded case studies, and draws on different sensemaking strategies. These include (1) narratives, that tend to provide idiosyncratic accounts of events and activities which lead to high accuracy but provide neither a simple nor a general theory (Langley, 1999; Pentland, 1999). However, these thick narrative descriptions provide contextual details that allow readers to judge the transferability of the ideas to other or their own situations (Langley, 1999, 2007). For example, Chapter 4 provides a thick description of the development and growth of a disruptive platform entrant, About You, in the German retail industry that details the decisions and actions performed by the entrant to leverage the resources and relationships of its multiple platform sides. As such, readers may transfer how these decisions and actions could be performed within their context or how their specific conditions may inhibit such strategies.

In addition, (2) we applied a grounded theory approach to our research, which tends to lead to dense theories and difficulties of developing more general formal theories (Glaser & Strauss, 2009). Yet, combining the richness of the narrative with the rigorous development of theoretical insights, allowed to enhance the generality of our theorising (Gehman et al., 2018; Langley et al., 2013). In fact, by first answering the

questions relating to our particular case, we then attempted analytical generalisations to a more general case of which the study is an instance of (Langley et al., 2013; Lincoln & Guba, 1985). This increases the transferability to other contexts. For instance, Chapter 5 provides a narrative description of strategic renewal attempts of German automobile incumbents to respond to the emergence and development of disruptive innovations. We combined this with a grounded theory approach to data collection and analysis and surfaced the role of alternative identity claims as sense-making and sensegiving devices (Gioia & Chittipeddi, 1991; Sandberg & Tsoukas, 2015) to legitimise the strategic renewal attempts. We further connected this insight to the role of temporal sensemaking (Gephart et al., 2010; Wiebe, 2010) to explain how a narrative that evoked the organisation's past yet provided a direction into the future enabled the incumbent to pursue its strategic renewal despite difficulties. As such, we connected the idiosyncratic narratives of the automobile incumbents with more general, theoretical discussions on identity as a sensemaking and sensegiving frame and the role of temporal sensemaking.

Further, we relied on the organising strategy of (3) visual mapping. While this allowed us to represent certain types of information, it limited the representation of other types of information, such as cognition or perception of developments as these were less easy to temporally pin down (Langley, 1999). We combined the visual mapping with (4) temporal bracketing, which tends to be moderate in accuracy and generality until tested on more data (Langley, 1999). We used temporal bracketing as a replicating strategy to define successive periods which are not phases but constitutions of comparative units of analysis for the exploration and replication of theoretical ideas (Langley, 1999). Following Langley (1999), the sample size of our process studies is thus not the number of cases but rather the number of temporal observations. Deconstructing a narrative into several temporal brackets enables the researcher to identify recurrence and accumulation of specific theoretical mechanisms over time (Van de Ven, 1992). By combining these different sensemaking

strategies, we were able to improve the generality, accuracy, and simplicity of our process research (Langley, 1999).

However, conducting process research requires time and process data is complex, eclectic, and collected from various sources. As such, this research relies on a variety of data sources and combines retrospective interviews (Chapter 3 and 5), recurring interviews (Chapter 3), time-stamped archival data (Chapter 3, 4, and 5), and real time observations (Chapter 3, 4, and 5). While this allows for triangulation to corroborate evidence and validate emerging findings (Creswell, 2012; Miles & Huberman, 1994), our data collection strategy was to trace back rather than to follow forward (Langley, 2007). This limits the theories that we could draw on and the dynamics we were able to surface. In fact, Chapter 5 focuses on the recursivity between strategy and identity to explain how incumbents could perform strategic renewal in the presence of an enduring and core identity claim. Yet, the study remains limited as we could not surface the strategy as performed by organisational members nor the discussions and negotiations pertaining to the sensemaking of the alternative identity claims or shared understanding of the organisational identity over time (Garud & Karnøe, 2013; Gioia et al., 2013; Gioia & Hamilton, 2016). While this limitation arose due to the time span of the observed transformation (we identified first transformational activities in 2004), it limited our theorising.

In addition, researchers proposed that observing disruptive innovations necessarily requires a tracing back, as a following forward is difficult to achieve given that disruptive innovation only becomes identifiable over time (Burgelman, 2011; Snihur et al., 2018). However, this makes it difficult to conduct studies on a micro-level and inhibits our theorising of incumbent members' interpreting of disruptive innovation and performing of transformational processes as well as entrants' strategising over time. This limits our understanding and the contribution we can make to researching and managing in an era of disruption (Kumaraswamy et al., 2018). As such, we propose to consider research that focuses on "potential disruption" and the "disruptive

path”. This may enable projects that follow a disruptive innovation in real-time to surface relevant insights regarding microfoundations and the role of performing and thus, may consequently advance the theory of disruptive innovation (Kumaraswamy et al., 2018).

Further, the dynamics that shape the entrant’s path towards disruption stem from a single case on About You (Chapter 4) and embedded cases in the insurance and retail industry in Germany (Chapter 3). While the embedded case studies and the utilisation of replicating strategies enabled us to compare and contrast processual dynamics and emerging theoretical mechanisms, our insights remain limited in generality (Gehman et al., 2018; Langley, 1999). As such, we propose that future research might find it useful to combine the insights from previous studies on the entrant’s path in a qualitative meta-analysis (Habersang et al., 2019; Hoon, 2013) that acknowledges their contextual characteristics, temporal embeddedness, and idiosyncratic details. This may advance our understanding of disruptive innovation theory by conceptualising a more generalisable process model of the entrant’s path towards disruption and may provide a first step towards testable hypotheses.

In addition, while we specifically propose the relevance of temporality in understanding the emergence, development, and growth of disruptive innovations in Chapter 2, the subsequent studies remain limited as they consider temporality implicitly (i.e., timing defence mechanisms, temporal sensemaking) rather than theorising explicitly on temporal dynamics. An explicit attempt to surface the role of temporality could advance our understanding of disruptive innovation as a process (Kumaraswamy et al., 2018; Langley et al., 2013; Reinecke & Ansari, 2017). Further research may thus explore temporality by researching how the incumbents’ pasts influence their future and how this enables or constrains strategic renewal in the face of disruption (e.g., Kaplan & Orlikowski, 2013; Schultz & Hernes, 2013, 2019), how the understanding of different tempos and underlying temporal developments enable or constrain disruptive developments (e.g., Ansari et al., 2016; Garud et al., 2016;

Reinecke & Ansari, 2017), or how entrants' timing shapes their performing of disruptive innovation (e.g., Clarke, 2019; Garud & Karnøe, 2013; Gavetti & Levinthal, 2000). This may ultimately develop the theory of disruptive innovation and provide relevant managerial implications by providing knowledge on how to take advantage of windows of opportunities for disruptive innovation.

7 REFERENCES

- Abernathy, W. J., & Clark, K. B. (1985). Innovation: Mapping the winds of creative destruction. *Research Policy*, 14(1), 3–22. [https://doi.org/10.1016/0048-7333\(85\)90021-6](https://doi.org/10.1016/0048-7333(85)90021-6)
- Adner, R. (2002). When are technologies disruptive? A demand-based view of the emergence of competition. *Strategic Management Journal*, 23(8), 667–688. <https://doi.org/10.1002/smj.246>
- Adner, R., & Snow, D. (2010). Old technology responses to new technology threats: Demand heterogeneity and technology retreats. *Industrial and Corporate Change*, 19(5), 1655–1675. <https://doi.org/10.1093/icc/dtq046>
- Adner, R., & Zemsky, P. (2006). A demand-based perspective on sustainable competitive advantage. *Strategic Management Journal*, 27(3), 215–239. <https://doi.org/10.1002/smj.513>
- Aggarwal, V., & Wu, A. (2019). Interorganizational Collaboration and Start-Up Innovation. In J. J. Reuer, S. F. Matusik, & J. Jones (Eds.), *The Oxford Handbook of Entrepreneurship and Collaboration* (pp. 609–627). Oxford University Press. <https://doi.org/10.1093/oxfordhb/9780190633899.013.1>
- Ahuja, G., & Katila, R. (2001). Technological acquisitions and the innovation performance of acquiring firms: A longitudinal study. *Strategic Management Journal*, 22(3), 197–220. <https://doi.org/10.1002/smj.157>
- Alvarez-Melis, D., & Saveski, M. (2016). Topic Modeling in Twitter: Aggregating tweets by conversations. *Proceedings of the Tenth International AAAI Conference on Web and Social Media*, 1–4.
- Amit, R., & Zott, C. (2001). Value creation in E-business. *Strategic Management Journal*, 22(6–7), 493–520. <https://doi.org/10.1002/smj.187>
- Ansari, S. (Shaz), & Garud, R. (2009). Inter-generational transitions in socio-technical systems: The case of mobile communications. *Research Policy*, 38(2), 382–392. <https://doi.org/10.1016/j.respol.2008.11.009>

- Ansari, S. (Shaz), Garud, R., & Kumaraswamy, A. (2016). The disruptor's dilemma: TiVo and the U.S. television ecosystem. *Strategic Management Journal*, 37(9), 1829–1853. <https://doi.org/10.1002/smj.2442>
- Ansari, S. (Shaz), & Krop, P. (2012). Incumbent Performance in the Face of a Radical Innovation: Towards a Framework for Incumbent Challenger Dynamics. *Research Policy*, 41(8), 1357–1374. <https://doi.org/10.1016/j.respol.2012.03.024>
- Anthony, C., & Tripsas, M. (2016). Organizational identity and innovation. In M. G. Pratt, M. Schultz, B. E. Ashforth, & D. Ravasi (Eds.), *The Oxford Handbook of Organizational Identity* (pp. 417–435). Oxford University Press. <https://doi.org/10.1093/oxfordhb/9780199689576.013.20>
- Ashforth, B. E., & Mael, F. A. (1996). Organizational Identity and Strategy as a Context for the Individual. *Advances in Strategic Management*, 13, 19–64.
- BaFin. (2020). *Insurtechs*. https://www.bafin.de/DE/Aufsicht/FinTech/Insurtech/insurtech_node.html
- Bansal, P., Reinecke, J., Suddaby, R., & Langley, A. (2019). Special Issue of Strategic Organization “Temporal Work: The Strategic Organization of Time.” *Strategic Organization*, 17(1), 145–149. <https://doi.org/10.1177/1476127018824166>
- Barr, P. S., Stimpert, J. L., & Huff, A. S. (1992). Cognitive Change, Strategic Action, and Organizational Renewal. *Strategic Management Journal*, 13, 15–36. <https://doi.org/10.1002/smj.4250131004>
- Baum, J. A. C., Calabrese, T., & Silverman, B. S. (2000). Don't go it alone: Alliance network composition and startups' performance in Canadian biotechnology. *Strategic Management Journal*, 21(3), 267–294. [https://doi.org/10.1002/\(SICI\)1097-0266\(200003\)21:3<267::AID-SMJ89>3.0.CO;2-8](https://doi.org/10.1002/(SICI)1097-0266(200003)21:3<267::AID-SMJ89>3.0.CO;2-8)
- Berends, H., & Deken, F. (2020). Composing qualitative process research. *Strategic Organization*, 1–13. <https://doi.org/10.1177/1476127018824838>

- Blei, D. M., Ng, A. Y., & Jordan, M. I. (2003). Latent Dirichlet allocation. *Journal of Machine Learning Research*, 3(4–5), 993–1022. <https://doi.org/10.1162/jmlr.2003.3.4-5.993>
- Bloomberg. (2019). *BMW, Daimler End North America Car-Sharing, Pare Europe Unit*. <https://www.bloomberg.com/news/articles/2019-12-18/bmw-and-daimler-pulling-car-sharing-operation-from-north-america>
- BOF, & McKinsey. (2020). *The State of Fashion 2020*. <https://www.mckinsey.com/industries/retail/our-insights/the-state-of-fashion-2020-navigating-uncertainty>
- Bojovic, N., Sabatier, V., & Coblenz, E. (2020). Becoming through doing: How experimental spaces enable organizational identity work. *Strategic Organization*, 20–49. <https://doi.org/10.1177/1476127019864673>
- Boudreau, K. (2010). Open platform strategies and innovation: Granting access vs. devolving control. *Management Science*, 56(10), 1849–1872. <https://doi.org/10.1287/mnsc.1100.1215>
- Bower, J. L. (1970). *Managing the resource allocation process: A study of corporate planning and investment*. Harvard Business School Press.
- Bower, J. L., & Christensen, C. M. (1995). Disruptive Technologies: Catching the Wave. *Harvard Business Review*, 73(1), 43–53.
- Bower, J. L., & Gilbert, C. G. (2005). Linking resource allocation to strategy. In J. L. Bower & C. G. Gilbert (Eds.), *From resource allocation to strategy* (pp. 3–25). Oxford University Press.
- Brass, D. J., Galaskiewicz, J., & Greve, H. R. (2004). Taking Stock of Networks and Organizations: A Multilevel Perspective. *Academy of Management Journal*, 47(6), 795–817. <https://doi.org/10.2307/20159624>
- Braun, A., & Schreiber, F. (2017). *The current InsurTech landscape: Business models and disruptive potential*. Institute of Insurance Economics I.VW-HSG, University of St. Gallen.

- Brown, S. L., & Eisenhardt, K. M. (1997). The art of continuous change: Linking complexity theory and time-paced evolution in relentlessly shifting organizations. *Administrative Science Quarterly*, 1–34. <https://doi.org/10.2307/2393807>
- Bruner, J. S. (1986). *Actual minds, possible worlds*. Harvard University Press.
- Bucher, P., Birkenmeier, B., Brodbeck, H., & Escher, J.-P. (2003). Management principles for evaluating and introducing disruptive technologies: The case of nanotechnology in Switzerland. *R&D Management*, 33(2), 149–163. <https://doi.org/10.1111/1467-9310.00289>
- Burgelman, R. A. (1983). A Process Model of Internal Corporate Venturing in the Diversified Major Firm. *Administrative Science Quarterly*, 28(2), 223–244. <https://doi.org/10.2307/2392619>
- Burgelman, R. A. (2011). Bridging history and reductionism: A key role for longitudinal qualitative research. *Journal of International Business Studies*, 42(5), 591–601. <https://doi.org/10.1057/jibs.2011.12>
- Caillaud, B., & Jullien, B. (2003). Chicken & Egg: Competition among Intermediation Service Providers. *The RAND Journal of Economics*, 34(2), 309–328. <https://doi.org/10.2307/1593720>
- Castro, I., Casanueva, C., & Galán, J. L. (2014). Dynamic evolution of alliance portfolios. *European Management Journal*, 32(3), 423–433. <https://doi.org/10.1016/j.emj.2013.06.006>
- Cennamo, C. (2018). Building the value of next-generation platforms: The paradox of diminishing returns. *Journal of Management*, 44(8), 3038–3069. <https://doi.org/10.1177/0149206316658350>
- Cennamo, C., & Santalo, J. (2013). Platform competition: Strategic trade-offs in platform markets. *Strategic Management Journal*, 34(11), 1331–1350. <https://doi.org/10.1002/smj.2066>
- Chen, C., Zhang, J., & Guo, R.-S. (2016). The D-Day, V-Day, and bleak days of a disruptive technology: A new model for ex-ante evaluation of the timing of

- technology disruption. *European Journal of Operational Research*, 251(2), 562–574. <https://doi.org/10.1016/j.ejor.2015.11.023>
- Chen, Y., & Turut, Ö. (2013). Context-Dependent Preferences and Innovation Strategy. *Management Science*, 59(12), 2747–2765. <https://doi.org/10.1287/mnsc.2013.1734>
- Chia, R., & Langley, A. (2004). The first organization studies summer workshop: Theorizing process in organizational research (call for papers). *Organization Studies*, 25(8), 1486.
- Chreim, S. (2005). The Continuity-Change Duality in Narrative Texts of Organizational Identity*. *Journal of Management Studies*, 42(3), 567–593. <https://doi.org/10.1111/j.1467-6486.2005.00509.x>
- Christensen, C. M. (1993). The Rigid Disk Drive Industry: A History of Commercial and Technological Turbulence. *Business History Review*, 67(04), 531–588. <https://doi.org/10.2307/3116804>
- Christensen, C. M. (1997). *The innovator's dilemma: When new technologies cause great firms to fail*. Harvard Business School Press.
- Christensen, C. M. (2006). The Ongoing Process of Building a Theory of Disruption. *Journal of Product Innovation Management*, 23(1), 39–55. <https://doi.org/10.1111/j.1540-5885.2005.00180.x>
- Christensen, C. M., Aaron, S., & Clark, W. (2005). Can Schools Improve? *Phi Delta Kappan*, 86(7), 545–550. <https://doi.org/10.1177/003172170508600716>
- Christensen, C. M., Baumann, H., & Ruggles, R. (2006). Disruptive Innovation for Social Change. *Harvard Business Review*, 84(12), 94.
- Christensen, C. M., Bohmer, R., & Kenagy, J. (2000). Will disruptive innovations cure health care? *Harvard Business Review*, 78, 102–112.
- Christensen, C. M., & Bower, J. L. (1996). Customer Power, Strategic Investment, and the Failure of Leading Firms. *Strategic Management Journal*, 17(3), 197–218. [https://doi.org/10.1002/\(SICI\)1097-0266\(199603\)17:3<197::AID-SMJ804>3.0.CO;2-U](https://doi.org/10.1002/(SICI)1097-0266(199603)17:3<197::AID-SMJ804>3.0.CO;2-U)

- Christensen, C. M., Johnson, M. W., & Rigby, D. K. (2002). Disruptive New Businesses. *MIT Sloan Management Review*, 22–31.
- Christensen, C. M., McDonald, R., Altman, E. J., & Palmer, J. E. (2018). Disruptive Innovation: An Intellectual History and Directions for Future Research. *Journal of Management Studies*, 55(7), 1043–1078. <https://doi.org/10.1111/joms.12349>
- Christensen, C. M., & Raynor, M. E. (2003). *The Innovator's Solution: Creating and Sustaining Successful Growth*. Harvard Business School Press.
- Christensen, C. M., Raynor, M. E., & McDonald, R. (2015). What is Disruptive Innovation. *Harvard Business Review*, 93(12), 44–53.
- Christensen, C. M., & Rosenbloom, R. S. (1995). Explaining the attacker's advantage: Technological paradigms, organizational dynamics, and the value network. *Research Policy*, 24, 233–257. [https://doi.org/10.1016/0048-7333\(93\)00764-K](https://doi.org/10.1016/0048-7333(93)00764-K)
- Christensen, C. M., & Tedlow, R. S. (2000). Patterns of disruption in retailing. *Harvard Business Review*, 78(1), 42–42.
- Christensen, C. M., Wang, D., & van Bever, D. (2013). Consulting on the Cusp of Disruption. *Harvard Business Review*, 91(10), 106–114.
- Clarke, T. (2019). Creative Destruction, Technology Disruption, and Growth. In T. Clarke, *Oxford Research Encyclopedia of Economics and Finance*. Oxford University Press. <https://doi.org/10.1093/acrefore/9780190625979.013.393>
- Cohen, J. (1960). A coefficient of agreement for nominal scales. *Educational and Psychological Measurement*, 20(1), 37–46. <https://doi.org/10.1177%2F001316446002000104>
- Corbin, J., & Strauss, A. (1990). Grounded theory research: Procedures, canons, and evaluative criteria. *Qualitative Sociology*, 13(1), 3–21. <https://doi.org/10.1007/BF00988593>
- Corley, K. G., & Gioia, D. A. (2003). *Semantic learning as change enabler: Relating organizational identity and organizational learning*.

- Cozzolino, A., & Rothaermel, F. T. (2018). Discontinuities, competition, and cooperation: Coopetitive dynamics between incumbents and entrants. *Strategic Management Journal*, 39(12), 3053–3085. <https://doi.org/10.1002/smj.2776>
- Cozzolino, A., Verona, G., & Rothaermel, F. T. (2018). Unpacking the Disruption Process: New Technology, Business Models, and Incumbent Adaptation. *Journal of Management Studies*. <https://doi.org/10.1111/joms.12352>
- Creswell, J. W. (2012). *Qualitative Inquiry and Research Design: Choosing Among Five Approaches*. SAGE Publications.
- Creswell, J. W. (2013). *Research design: Qualitative, quantitative, and mixed methods approaches* (4th ed). SAGE Publications.
- Cusumano, M. E., & Gawer, A. (2002). The elements of platform leadership. *MIT Sloan Management Review*, 43(3), 51–58. <https://doi.org/10.1109/EMR.2003.1201437>
- Daft, R. L., & Weick, K. E. (1984). Toward a Model of Organizations as Interpretation Systems. *The Academy of Management Review*, 9(2), 284–295. <https://doi.org/10.2307/258441>
- Danneels, E. (2004). Disruptive Technology Reconsidered: A Critique and Research Agenda. *Journal of Product Innovation Management*, 21(4), 246–258. <https://doi.org/10.1111/j.0737-6782.2004.00076.x>
- Danneels, E. (2011). Trying to become a different type of company: Dynamic capability at Smith Corona. *Strategic Management Journal*, 32(1), 1–31. <https://doi.org/10.1002/smj.863>
- Debortoli, S., Müller, O., Junglas, I., & vom Brocke, J. (2016). Text mining for information systems researchers: An annotated topic modeling tutorial. *Communications of the Association for Information Systems*, 39(1), 7. <https://doi.org/10.17705/1CAIS.03907>
- Dewald, J., & Bowen, F. (2010). Storm Clouds and Silver Linings: Responding to Disruptive Innovations Through Cognitive Resilience. *Entrepreneurship*

- Theory and Practice*, 34(1), 197–218. <https://doi.org/10.1111/j.1540-6520.2009.00312.x>
- Dosi, G. (1982). Technological paradigms and technological trajectories. *Research Policy*, 11(3), 147–162. [https://doi.org/10.1016/0048-7333\(82\)90016-6](https://doi.org/10.1016/0048-7333(82)90016-6)
- Downes, L., & Nunes, P. (2013). Big-Bang Disruption. *Harvard Business Review*, 91, 44–56.
- Downes, L., & Nunes, P. (2014). *Big bang disruption: Strategy in the age of devastating innovation*. Portfolio/Penguin.
- Dutton, J. E., & Dukerich, J. M. (1991). Keeping an eye on the mirror: Image and identity in organizational adaptation. *Academy of Management Journal*, 34(3), 517–554. <https://doi.org/10.5465/256405>
- Dutton, J. E., & Jackson, S. E. (1987). Categorizing Strategic Issues: Links to Organizational Action. *The Academy of Management Review*, 12(1), 76–90. <https://doi.org/10.2307/257995>
- Dyerson, R., & Pilkington, A. (2005). Gales of creative destruction and the opportunistic incumbent: The case of electric vehicles in California. *Technology Analysis & Strategic Management*, 17(4), 391–408. <https://doi.org/10.1080/09537320500357160>
- Easterby-Smith, M., Thorpe, R., & Jackson, P. (Eds.). (2008). *Management research* (3rd ed). SAGE.
- Economist. (2019). Tech's raid on the banks. *The Economist*. <https://www.economist.com/leaders/2019/05/02/techs-raid-on-the-banks>
- Eisenhardt, K. M. (1989). Building Theories from Case Study Research. *The Academy of Management Review*, 14(4), 532–550. <https://doi.org/10.2307/258557>
- Eisenhardt, K. M., & Graebner, M. E. (2007). Theory Building From Cases: Opportunities And Challenges. *Academy of Management Journal*, 50(1), 25–32. <https://doi.org/10.5465/amj.2007.24160888>

- Eisenmann, T. R., Parker, G., & Van Alstyne, M. (2009). Opening Platforms: How, When and Why? *Harvard Business School*, 09–030, 29.
- EIU. (2015). *The disruption of banking*. <https://eiuperspectives.economist.com/technology-innovation/disruption-banking/white-paper/disruption-banking?redirect=TRUE>
- Evans, D. S. (2009). How catalysts ignite: The economics of platform-based start-ups. In A. Gawer (Ed.), *Platforms, Markets and Innovation* (pp. 99–128). Edward Elgar Publishing.
- Financial Times. (2018). Bankers fear they will get Amazon-ed in tech disruption. *Financial Times*. <https://www.ft.com/content/ab5d8698-f530-11e7-8715-e94187b3017e>
- Financial Times. (2019a). *German car industry faces day of reckoning*. <https://www.ft.com/content/5c304e72-120a-11ea-a7e6-62bf4f9e548a>
- Financial Times. (2019b). *Lemonade aims takes its digital fizz to German insurance*. <https://www.ft.com/content/6533b0ce-8c39-11e9-a1c1-51bf8f989972>
- Financial Times. (2020). *Germany's biggest department store chain files for creditor protection*. <https://www.ft.com/content/3d8de7ac-d3be-4f35-86e9-73a6dbf89aeb>
- Flavin, M. (2016). Technology-enhanced learning and higher education. *Oxford Review of Economic Policy*, 32(4), 632–645. <https://doi.org/10.1093/oxrep/grw028>
- Flick, U. (2006). *An Introduction to Qualitative Research*. SAGE Publications. <https://books.google.de/books?id=t45GmKMZp0MC>
- Foss, N. J., & Saebi, T. (2017). Fifteen Years of Research on Business Model Innovation: How Far Have We Come, and Where Should We Go? *Journal of Management*, 43(1), 200–227. <https://doi.org/10.1177/0149206316675927>
- Garcia, R., & Calantone, R. (2002). A critical look at technological innovation typology and innovativeness terminology: A literature review. *The Journal of*

- Product Innovation Management*, 19, 110–132.
[https://doi.org/10.1016/S0737-6782\(01\)00132-1](https://doi.org/10.1016/S0737-6782(01)00132-1)
- Garud, R., Gehman, J., & Giuliani, A. P. (2018). Why not take a performative approach to entrepreneurship? *Journal of Business Venturing Insights*, 9, 60–64. <https://doi.org/10.1016/j.jbvi.2018.01.001>
- Garud, R., Gehman, J., & Kumaraswamy, A. (2011). Complexity arrangements for sustained innovation: Lessons from 3M Corporation. *Organization Studies*, 32(6), 737–767. <https://doi.org/10.1177/0170840611410810>
- Garud, R., Gehman, J., Kumaraswamy, A., & Tuertscher, P. (2016). From the Process of Innovation to Innovation as Process. In A. Langley & H. Tsoukas, *The SAGE Handbook of Process Organization Studies* (pp. 451–465). SAGE Publications Ltd. <https://doi.org/10.4135/9781473957954.n28>
- Garud, R., & Karnøe, P. (2013). *Path dependence and creation*. Psychology Press.
- Garud, R., Schildt, H. A., & Lant, T. K. (2014). Entrepreneurial storytelling, future expectations, and the paradox of legitimacy. *Organization Science*, 25(5), 1479–1492. <https://doi.org/10.1287/orsc.2014.0915>
- Gassmann, O., Zeschky, M., Wolff, T., & Stahl, M. (2010). Crossing the Industry-Line: Breakthrough Innovation through Cross-Industry Alliances with ‘Non-Suppliers.’ *Long Range Planning*, 43(5–6), 639–654. <https://doi.org/10.1016/j.lrp.2010.06.003>
- Gavetti, G., & Levinthal, D. (2000). Looking forward and looking backward: Cognitive and experiential search. *Administrative Science Quarterly*, 45(1), 113–137. <https://doi.org/10.2307/2666981>
- Gawer, A. (2009). *Platforms, Markets and Innovation*. Edward Elgar Publishing. <https://doi.org/10.4337/9781849803311>
- Gawer, A., & Cusumano, M. E. (2008). How companies become platform leaders. *MIT Sloan Management Review*, 49(2), 28–35.
- Gawer, A., & Cusumano, M. E. (2015). How companies become platform leaders. In *Top 10 lessons on strategy* (pp. 68–75). MIT Sloan Review.

- Gawer, A., & Henderson, R. (2007). Platform Owner Entry and Innovation in Complementary Markets: Evidence from Intel. *Journal of Economics & Management Strategy*, 16(1), 1–34. <https://doi.org/10.1111/j.1530-9134.2007.00130.x>
- GDV. (2017). *InsurTech(s): Zwischen Konkurrenz und Partnerschaft*.
- Gehman, J., Glaser, V. L., Eisenhardt, K. M., Gioia, D. A., Langley, A., & Corley, K. G. (2018). Finding Theory–Method Fit: A Comparison of Three Qualitative Approaches to Theory Building. *Journal of Management Inquiry*, 27(3), 284–300. <https://doi.org/10.1177/1056492617706029>
- Gephart, R. P., Topal, C., & Zhang, Z. (2010). Future-oriented Sensemaking: Temporalities and Institutional Legitimation. In T. Hernes & S. Maitlis (Eds.), *Process, Sensemaking, and Organizing* (pp. 275–312). Oxford University Press. <https://doi.org/10.1093/acprof:oso/9780199594566.003.0013>
- Gibbs, J., Kraemer, K. L., & Dedrick, J. (2003). Environment and Policy Factors Shaping Global E-Commerce Diffusion: A Cross-Country Comparison. *The Information Society*, 19(1), 5–18. <https://doi.org/10.1080/01972240309472>
- Gilbert, C. G. (2001). A Dilemma in Response: Examining the Newspaper Industry's Response to the Internet. *Academy of Management Proceedings*, 2001(1), D1–D6. <https://doi.org/10.5465/apbpps.2001.6123173>
- Gilbert, C. G. (2003). The Disruption Opportunity. *MIT Sloan Management Review*, 44(4), 27–33.
- Gilbert, C. G. (2005). Unbundling the Structure of Inertia: Resource versus Routine Rigidity. *The Academy of Management Journal*, 48(5), 741–763. <https://doi.org/10.5465/amj.2005.18803920>
- Gilbert, C. G. (2006). Change in the Presence of Residual Fit: Can Competing Frames Coexist? *Organization Science*, 17(1), 150–167. <https://doi.org/10.1287/orsc.1050.0160>
- Gilbert, C. G., & Bower, J. L. (2002). Disruptive Change: When Trying Harder Is Part of the Problem. *Harvard Business Review*, 80, 94–101.

- Gioia, D. A., & Chittipeddi, K. (1991). Sensemaking and Sensegiving in Strategic Change Initiation. *Strategic Management Journal*, 12(6), 433–448. <https://doi.org/10.1002/smj.4250120604>
- Gioia, D. A., Corley, K. G., & Hamilton, A. L. (2012). Seeking Qualitative Rigor in Inductive Research: Notes on the Gioia Methodology. *Organizational Research Methods*, 16(1), 15–31. <https://doi.org/10.1177/1094428112452151>
- Gioia, D. A., & Hamilton, A. L. (2016). Great debates in organizational identity study. In *The Oxford handbook of organizational identity* (pp. 21–38). Oxford University Press Oxford.
- Gioia, D. A., Patvardhan, S. D., Hamilton, A. L., & Corley, K. G. (2013). Organizational Identity Formation and Change. *The Academy of Management Annals*, 7(1), 123–193. <https://doi.org/10.1080/19416520.2013.762225>
- Glaser, B. G., & Strauss, A. L. (2009). *The discovery of grounded theory: Strategies for qualitative research* (4. paperback printing). Aldine.
- Goldsby, T. J., & Zinn, W. (2016). Technology Innovation and New Business Models: Can Logistics and Supply Chain Research Accelerate the Evolution? *Journal of Business Logistics*, 37(2), 80–81. <https://doi.org/10.1111/jbl.12130>
- Golicic, S. L., & Sebastiao, H. J. (2011). Supply Chain Strategy in Nascent Markets: The Role of Supply Chain Development in the Commercialization Process. *Journal of Business Logistics*, 32(3), 254–273. <https://doi.org/10.1111/j.2158-1592.2011.01021.x>
- Gomber, P., Kauffman, R. J., Parker, C., & Weber, B. W. (2018). On the Fintech Revolution: Interpreting the Forces of Innovation, Disruption, and Transformation in Financial Services. *Journal of Management Information Systems*, 35(1), 220–265. <https://doi.org/10.1080/07421222.2018.1440766>
- Govindarajan, V., & Kopalle, P. K. (2006). Disruptiveness of innovations: Measurement and an assessment of reliability and validity. *Strategic Management Journal*, 27(2), 189–199. <https://doi.org/10.1002/smj.511>

- Govindarajan, V., Kopalle, P. K., & Danneels, E. (2011). The Effects of Mainstream and Emerging Customer Orientations on Radical and Disruptive Innovations. *Journal of Product Innovation Management*, 28(s1), 121–132. <https://doi.org/10.1111/j.1540-5885.2011.00865.x>
- Green, J., & Newman, P. (2017). Disruptive innovation, stranded assets and forecasting: The rise and rise of renewable energy. *Journal of Sustainable Finance & Investment*, 7(2), 169–187. <https://doi.org/10.1080/20430795.2016.1265410>
- GTAI. (2019a). *E-Commerce*. <https://www.gtai.de/GTAI/Navigation/EN/Invest/Industries/Digital-economy/e-commerce.html?view=renderPrint>
- GTAI. (2019b). *The Automotive Industry in Germany*. <https://www.gtai.de/gtai-en/invest/service/publications/the-automotive-industry-in-germany-64580>
- Gulati, R., & Higgins, M. C. (2003). Which ties matter when? The contingent effects of interorganizational partnerships on IPO success. *Strategic Management Journal*, 24(2), 127–144. <https://doi.org/10.1002/smj.287>
- Gupta, A. K., & Wilemon, D. (1990). Improving R&D/Marketing relations: R&D's perspective. *R&D Management*, 20(4), 277–290. <https://doi.org/10.1111/j.1467-9310.1990.tb00718.x>
- Habersang, S., Küberling-Jost, J., Reihlen, M., & Seckler, C. (2019). A Process Perspective on Organizational Failure: A Qualitative Meta-Analysis. *Journal of Management Studies*, 56(1), 19–56. <https://doi.org/10.1111/joms.12341>
- Habtay, S. R. (2012). A Firm-Level Analysis on the Relative Difference between Technology-Driven and Market-Driven Disruptive Business Model Innovations. *Creativity and Innovation Management*, 21(3), 290–303. <https://doi.org/10.1111/j.1467-8691.2012.00628.x>
- Hagel, J., Brown, J. S., De Maar, A., & Wooll, M. (2016). Approaching disruption: Charting a course for new growth and performance at the edge and beyond. *Deloitte University Press*, 1–46.

- Hager, M. A., Galaskiewicz, J., & Larson, J. A. (2004). Structural embeddedness and the liability of newness among nonprofit organizations. *Public Management Review*, 6(2), 159–188. <https://doi.org/10.1080/1471903042000189083>
- Hagiu, A., & Spulber, D. (2013). First-party content and coordination in two-sided markets. *Management Science*, 59(4), 933–949. <https://doi.org/10.1287/mnsc.1120.1577>
- Hajhashem, M., & Khorasani, A. (2015). Demystifying the Dynamic of Disruptive Innovations in Markets with Complex Adoption Networks: From Encroachment to Disruption. *International Journal of Innovation and Technology Management*, 12(05), 1550022. <https://doi.org/10.1142/S0219877015500224>
- Hallen, B. L., Katila, R., & Rosenberger, J. D. (2014). How Do Social Defenses Work? A Resource-Dependence Lens on Technology Ventures, Venture Capital Investors, and Corporate Relationships. *Academy of Management Journal*, 57(4), 1078–1101. <https://doi.org/10.5465/amj.2012.0003>
- HDE. (2019). *Handelsverband Deutschland (HDE)—The German Retail Federation*. The German Retail Federation. <https://einzelhandel.de/eu/588-derverband/hde-organisation/1870-the-german-retail-federation>
- Heikkilä, M., Saarni, J., Kaartemo, V., & Koponen, A. (2015). Viability Radar: A Practical Tool for Assessing the Viability of Transformative Service Innovations in a Healthcare Context. *Technology Innovation Management Review*, 5, 17–30. <https://doi.org/10.22215/timreview/895>
- Hein, A., Schrieck, M., Wiesche, M., Böhm, M., & Kremer, H. (2019). The emergence of native multi-sided platforms and their influence on incumbents. *Electronic Markets*, 29(4), 631–647. <https://doi.org/10.1007/s12525-019-00350-1>

- Henderson, R. (2006). The Innovator's Dilemma as a Problem of Organizational Competence. *Journal of Product Innovation Management*, 23(1), 5–11. <https://doi.org/10.1111/j.1540-5885.2005.00175.x>
- Henderson, R., & Clark, K. B. (1990). Architectural Innovation: The Reconfiguration of Existing Product Technologies and the Failure of Established Firms. *Administrative Science Quarterly*, 35(1), 9–30. <https://doi.org/10.2307/2393549>
- Hoffmann, W. H. (2007). Strategies for managing a portfolio of alliances. *Strategic Management Journal*, 28(8), 827–856. <https://doi.org/10.1002/smj.607>
- Hong, L., & Davison, B. D. (2010). Empirical study of topic modeling in Twitter. *Proceedings of the First Workshop on Social Media Analytics - SOMA '10*, 80–88. <https://doi.org/10.1145/1964858.1964870>
- Hoon, C. (2013). Meta-Synthesis of Qualitative Case Studies: An Approach to Theory Building. *Organizational Research Methods*, 16(4), 522–556. <https://doi.org/10.1177/1094428113484969>
- Hopp, C., Antons, D., Kaminski, J., & Oliver Salge, T. (2018). Disruptive Innovation: Conceptual Foundations, Empirical Evidence, and Research Opportunities in the Digital Age. *Journal of Product Innovation Management*, 35(3), 446–457. <https://doi.org/10.1111/jpim.12448>
- Hsu, D. H. (2006). Venture Capitalists and Cooperative Start-up Commercialization Strategy. *Management Science*, 52(2), 204–219. <https://doi.org/10.1287/mnsc.1050.0480>
- Huang, X., & Sošić, G. (2010). Analysis of industry equilibria in models with sustaining and disruptive technology. *European Journal of Operational Research*, 207(1), 238–248. <https://doi.org/10.1016/j.ejor.2010.04.033>
- Huff, J. O., Huff, A. S., & Thomas, H. (1992). Strategic renewal and the interaction of cumulative stress and inertia. *Strategic Management Journal*, 13(S1), 55–75. <https://doi.org/10.1002/smj.4250131006>

- Hüsig, S., Hipp, C., & Dowling, M. (2005). Analysing disruptive potential: The case of wireless local area network and mobile communications network companies. *R & D Management*, 35(1), 17–35. <https://doi.org/10.1111/j.1467-9310.2005.00369.x>
- Jacobides, M. G., & MacDuffie, J. P. (2013). How to Drive Value Your Way. *Harvard Business Review*, 91(7), 92–100.
- Johnson, M. W., Christensen, C. M., & Kagermann, H. (2008). Reinventing Your Business Model. *Harvard Business Review*, 86, 59–68.
- Kahl, S. J., & Grodal, S. (2016). Discursive strategies and radical technological change: Multilevel discourse analysis of the early computer (1947-1958). *Strategic Management Journal*, 37(1), 149–166. <https://doi.org/10.1002/smj.2453>
- Kahneman, D., & Tversky, A. (1979). Prospect Theory: An Analysis of Decision under Risk. *Econometrica*, 47(2), 263–291. <https://doi.org/10.2307/1914185>
- Kahneman, D., & Tversky, A. (1984). Choices, values, and frames. *American Psychologist*, 39(4), 341–350. <https://doi.org/10.1037/0003-066X.39.4.341>
- Kammerlander, N., König, A., & Richards, M. (2018). Why Do Incumbents Respond Heterogeneously to Disruptive Innovations? The Interplay of Domain Identity and Role Identity. *Journal of Management Studies*, 55(7), 1122–1165. <https://doi.org/10.1111/joms.12345>
- Kaplan, S. (2011). Research in Cognition and Strategy: Reflections on Two Decades of Progress and a Look to the Future: Cognition and Strategy. *Journal of Management Studies*, 48(3), 665–695. <https://doi.org/10.1111/j.1467-6486.2010.00983.x>
- Kaplan, S., & Orlikowski, W. J. (2013). Temporal Work in Strategy Making. *Organization Science*, 24(4), 965–995. <https://doi.org/10.1287/orsc.1120.0792>
- Katila, R., Rosenberger, J. D., & Eisenhardt, K. M. (2008). Swimming with Sharks: Technology Ventures, Defense Mechanisms and Corporate Relationships.

- Administrative Science Quarterly*, 53(2), 295–332.
<https://doi.org/10.2189/asqu.53.2.295>
- Katz, M. L., & Shapiro, C. (1985). Network externalities, competition, and compatibility. *The American Economic Review*, 75(3), 424–440.
<https://www.jstor.org/stable/1814809>
- Keller, A., & Hüsig, S. (2009). Ex ante identification of disruptive innovations in the software industry applied to web applications: The case of Microsoft's vs. Google's office applications. *Technological Forecasting and Social Change*, 76(8), 1044–1054. <https://doi.org/10.1016/j.techfore.2009.03.005>
- Kende, M. (1998). Profitability under an open versus a closed system. *Journal of Economics & Management Strategy*, 7(2), 307–326.
<https://doi.org/10.1111/j.1430-9134.1998.00307.x>
- Khanagha, S., Ansari, S. (Shaz), Paroutis, S., & Oviedo, L. C. (2020). Mutualism and the dynamics of new platform creation: A study of Cisco and fog computing. *Strategic Management Journal, Special Issue on Strategies for Platform Ecosystems*, 1–31. <https://doi.org/10.1002/smj.3147>
- King, A. A., & Baatartogtokh, B. (2015). How useful is the theory of disruptive innovation? *MIT Sloan Management Review*, 57(1), 77–90.
- Klenner, P., Hüsig, S., & Dowling, M. (2013). Ex-ante evaluation of disruptive susceptibility in established value networks—When are markets ready for disruptive innovations? *Research Policy*, 42(4), 914–927.
<https://doi.org/10.1016/j.respol.2012.12.006>
- Knoben, J., & Bakker, R. M. (2019). The guppy and the whale: Relational pluralism and start-ups' expropriation dilemma in partnership formation. *Journal of Business Venturing*, 34(1), 103–121.
<https://doi.org/10.1016/j.jbusvent.2018.05.008>
- Kogut, B., & Zander, U. (1996). What Firms Do? Coordination, Identity, and Learning. *Organization Science*, 7(5), 502–518.
<https://doi.org/10.1287/orsc.7.5.502>

- Kumaraswamy, A., Garud, R., & Ansari, S. (Shaz). (2018). Perspectives on Disruptive Innovations. *Journal of Management Studies*, 55(7), 1025–1042. <https://doi.org/10.1111/joms.12399>
- Langley, A. (1999). Strategies for Theorizing from Process Data. *The Academy of Management Review*, 24(4), 691–710. <https://doi.org/10.2307/259349>
- Langley, A. (2007). Process thinking in strategic organization. *Strategic Organization*, 5(3), 271–282. <https://doi.org/10.1177/1476127007079965>
- Langley, A., Smallman, C., Tsoukas, H., & Van de Ven, A. H. (2013). Process Studies of Change in Organization and Management: Unveiling Temporality, Activity, and Flow. *Academy of Management Journal*, 56(1), 1–13. <https://doi.org/10.5465/amj.2013.4001>
- Lavie, D. (2007). Alliance portfolios and firm performance: A study of value creation and appropriation in the U.S. software industry. *Strategic Management Journal*, 28(12), 1187–1212. <https://doi.org/10.1002/smj.637>
- Lawlor, J., & Kavanagh, D. (2015). Infighting and fitting in: Following innovation in the stent actor–network. *Industrial Marketing Management*, 44, 32–41. <https://doi.org/10.1016/j.indmarman.2014.10.005>
- Lee, D. D., & Seung, H. S. (1999). Learning the parts of objects by non-negative matrix factorization. *Nature*, 401(6755), 788–791. <https://doi.org/10.1038/44565>
- Leonard-Barton, D. (1992). Core capabilities and core rigidities: A paradox in managing new product development. *Strategic Management Journal*, 13(S1), 111–125.
- Lettice, F., & Thomond, P. (2008). Allocating resources to disruptive innovation projects: Challenging mental models and overcoming management resistance. *International Journal of Technology Management*, 44(1/2), 140–159. <https://doi.org/10.1504/IJTM.2008.020702>
- Levinthal, D. A., & March, J. G. (1993). The myopia of learning. *Strategic Management Journal*, 14(S2), 95–112. <https://doi.org/10.1002/smj.4250141009>

- Lieberman, M. B., & Montgomery, D. B. (1998). First-Mover (Dis)Advantages: Retrospective and Link with the Resource-Based View. *Strategic Management Journal*, 19(12), 1111–1125. [https://doi.org/10.1002/\(sici\)1097-0266\(1998120\)19:12%3C1111::aid-smj21%3E3.0.co;2-w](https://doi.org/10.1002/(sici)1097-0266(1998120)19:12%3C1111::aid-smj21%3E3.0.co;2-w)
- Lincoln, Y. S., & Guba, E. G. (1985). *Naturalistic inquiry*. Sage Publications.
- Lincoln, Y. S., & Guba, E. G. (1986). But is it rigorous? Trustworthiness and authenticity in naturalistic evaluation. *New Directions for Program Evaluation*, 1986(30), 73–84. <https://doi.org/10.1002/ev.1427>
- Livengood, R. S., & Reger, R. K. (2010). That's Our Turf! Identity Domains and Competitive Dynamics. *The Academy of Management Review*, 35(1), 48–66. <https://doi.org/10.5465/amr.2010.45577794>
- Lucas, H. C., & Goh, J. M. (2009). Disruptive technology: How Kodak missed the digital photography revolution. *The Journal of Strategic Information Systems*, 18(1), 46–55. <https://doi.org/10.1016/j.jsis.2009.01.002>
- Majumdar, D., Banerji, P. K., & Chakrabarti, S. (2018). Disruptive technology and disruptive innovation: Ignore at your peril! *Technology Analysis & Strategic Management*, 30(11), 1247–1255. <https://doi.org/10.1080/09537325.2018.1523384>
- Markides, C. (2006). Disruptive Innovation: In Need of Better Theory*. *Journal of Product Innovation Management*, 23(1), 19–25. <https://doi.org/10.1111/j.1540-5885.2005.00177.x>
- Marx, M., Gans, J. S., & Hsu, D. H. (2014). Dynamic Commercialization Strategies for Disruptive Technologies: Evidence from the Speech Recognition Industry. *Management Science*, 60(12), 3103–3123. <https://doi.org/10.1287/mnsc.2014.2035>
- Massa, L., Tucci, C. L., & Afuah, A. (2017). A Critical Assessment of Business Model Research. *Academy of Management Annals*, 11(1), 73–104. <https://doi.org/10.5465/annals.2014.0072>

- McKinsey Report. (2016a). *Auto 2030 Report, Jan 2016*. <https://www.mckinsey.com/industries/automotive-and-assembly/our-insights/disruptive-trends-that-will-transform-the-auto-industry>
- McKinsey Report. (2016b). *Making digital strategy a reality in insurance*.
- McKinsey Report. (2017). *Digital disruption in insurance: Cutting through the noise*.
- McKinsey Report. (2018a). *Insurance 2030– The impact of AI on the future of insurance*.
- McKinsey Report. (2018b). *Synergy and disruption: Ten trends shaping fintech*.
- McKinsey Report. (2019a). *An integrated perspective on the future of mobility, part 3: Setting the direction toward seamless mobility*.
- McKinsey Report. (2019b). *Navigating a world of disruption*.
- Mehrotra, R., Sanner, S., Buntine, W., & Xie, L. (2013). Improving LDA topic models for microblogs via tweet pooling and automatic labeling. *Proceedings of the 36th International ACM SIGIR Conference on Research and Development in Information Retrieval - SIGIR '13*, 889. <https://doi.org/10.1145/2484028.2484166>
- Miles, M. B., & Huberman, A. M. (1994). *Qualitative Data Analysis: An Expanded Sourcebook*. SAGE Publications.
- Miles, M. B., Huberman, A. M., & Saldaña, J. (2014). *Qualitative data analysis: A methods sourcebook* (Third edition). SAGE Publications, Inc.
- Mintzberg, H., & Waters, J. A. (1985). Of strategies, deliberate and emergent. *Strategic Management Journal*, 6(3), 257–272. <https://doi.org/10.1002/smj.4250060306>
- Mohr, L. B. (1982). *Explaining organizational behavior*. Jossey-Bass.
- Molina-Morales, F. X., Martínez-Cháfer, L., & Valiente-Bordanova, D. (2019). Disruptive technology adoption, particularities of clustered firms. *Entrepreneurship & Regional Development*, 31(1–2), 62–81. <https://doi.org/10.1080/08985626.2018.1537147>

- Morgan Stanley. (2015). *The Emerging Role of Ecosystems in Insurance*.
- Murray, J. A. (1984). A concept of entrepreneurial strategy. *Strategic Management Journal*, 5(1), 1–13. <https://doi.org/10.1002/smj.4250050102>
- Muzellec, L., Ronteau, S., & Lambkin, M. (2015). Two-sided Internet platforms: A business model lifecycle perspective. *Industrial Marketing Management*, 45, 139–150. <https://doi.org/10.1016/j.indmarman.2015.02.012>
- Nagy, D., Schuessler, J., & Dubinsky, A. (2016). Defining and identifying disruptive innovations. *Industrial Marketing Management*, 57, 119–126. <https://doi.org/10.1016/j.indmarman.2015.11.017>
- Nalebuff, B. J., & Brandenburger, A. M. (1997). Co-opetition: Competitive and co-operative business strategies for the digital economy. *Strategy & Leadership*, 25(6), 28–33. <https://doi.org/10.1108/eb054655>
- Navis, C., & Glynn, M. A. (2010). How New Market Categories Emerge: Temporal Dynamics of Legitimacy, Identity, and Entrepreneurship in Satellite Radio, 1990–2005. *Administrative Science Quarterly*, 55(3), 439–471. <https://doi.org/10.2189/asqu.2010.55.3.439>
- Nayak, A., & Chia, R. (2011). Thinking becoming and emergence: Process philosophy and organization studies. In H. Tsoukas & R. Chia (Eds.), *Research in the Sociology of Organizations* (Vol. 32, pp. 281–309). Emerald Group Publishing Limited. [https://doi.org/10.1108/S0733-558X\(2011\)0000032012](https://doi.org/10.1108/S0733-558X(2011)0000032012)
- Naylor, M. (2016). *A perfect storm in insurance: How to survive the looming waves of disruptive technology*. MJ Publishing.
- Nikkei Asian Review. (2020). *Tesla electronics “years ahead” of Toyota and VW*. <https://asia.nikkei.com/Business/Automobiles/Tesla-teardown-finds-electronics-6-years-ahead-of-Toyota-and-VW2>
- O’Callaghan, D., Greene, D., Carthy, J., & Cunningham, P. (2015). An analysis of the coherence of descriptors in topic modeling. *Expert Systems with Applications*, 42(13), 5645–5657. <https://doi.org/10.1016/j.eswa.2015.02.055>

- Osiyevskyy, O., & Dewald, J. (2015). Explorative Versus Exploitative Business Model Change: The Cognitive Antecedents of Firm-Level Responses to Disruptive Innovation. *Strategic Entrepreneurship Journal*, 9(1), 58–78. <https://doi.org/10.1002/sej.1192>
- Ozalp, H., Cennamo, C., & Gawer, A. (2018). Disruption in Platform-Based Ecosystems. *Journal of Management Studies*, 55(7), 1203–1241. <https://doi.org/10.1111/joms.12351>
- Parker, G., & Van Alstyne, M. (2018). Innovation, Openness, and Platform Control. *Management Science*, 64(7), 3015–3032. <https://doi.org/10.1287/mnsc.2017.2757>
- Parker, G., Van Alstyne, M., & Choudary, S. P. (2016). *Platform revolution: How networked markets are transforming the economy and how to make them work for you*. WW Norton & Company.
- Pauly, M. V. (2008). ‘We Aren’t Quite As Good, But We Sure Are Cheap’: Prospects For Disruptive Innovation In Medical Care And Insurance Markets. *Health Affairs*, 27(5), 1349–1352. <https://doi.org/10.1377/hlthaff.27.5.1349>
- Pentland, B. T. (1999). Building Process Theory with Narrative: From Description to Explanation. *The Academy of Management Review*, 24(4), 711–724. <https://doi.org/10.2307/259350>
- Perks, H., Gruber, T., & Edvardsson, B. (2012). Co-creation in Radical Service Innovation: A Systematic Analysis of Microlevel Processes: Co-creation in Radical Service Innovation. *Journal of Product Innovation Management*, 29(6), 935–951. <https://doi.org/10.1111/j.1540-5885.2012.00971.x>
- Perks, H., Kowalkowski, C., Witell, L., & Gustafsson, A. (2017). Network orchestration for value platform development. *Industrial Marketing Management*, 67, 106–121. <https://doi.org/10.1016/j.indmarman.2017.08.002>
- Pettigrew, A. M. (1992). The character and significance of strategy process research. *Strategic Management Journal*, 13(S2), 5–16. <https://doi.org/10.1002/smj.4250130903>

- Pettigrew, A. M., Woodman, R. W., & Cameron, K. S. (2001). Studying Organizational Change and Development: Challenges for Future Research. *Academy of Management Journal*, 44(4), 697–713. <https://doi.org/10.2307/3069411>
- Petzold, N., Landinez, L., & Baaken, T. (2019). Disruptive innovation from a process view: A systematic literature review. *Creativity and Innovation Management*, 28(2), 157–174. <https://doi.org/10.1111/caim.12313>
- Pfeffer, J., & Salancik, G. R. (1978). *The External Control of Organizations: A Resource Dependence Perspective*. Harper & Row.
- Pfeffer, J., & Salancik, G. R. (2003). *The external control of organizations: A resource dependence perspective*. Stanford Business Books.
- Poole, M. S., Van de Ven, A. H., Dooley, K., & Holmes, M. E. (2000). *Organizational Change and Innovation Processes: Theory and Methods for Research*. Oxford University Press.
- Quinn, K. M., Monroe, B. L., Colaresi, M., Crespin, M. H., & Radev, D. R. (2010). How to analyze political attention with minimal assumptions and costs. *American Journal of Political Science*, 54(1), 209–228. <https://doi.org/10.1111/j.1540-5907.2009.00427.x>
- Rafii, F., & Kampas, P. J. (2002). How to identify your enemies before they destroy you. *Harvard Business Review*, 80, 115–123.
- Ravasi, D., & Phillips, N. (2011). Strategies of alignment: Organizational identity management and strategic change at Bang & Olufsen. *Strategic Organization*, 9(2), 103–135. <https://doi.org/10.1177/1476127011403453>
- Ravasi, D., Tripsas, M., & Langley, A. (2017). Call for Papers: Special Issue of Strategic Organization: “Exploring the Strategy-Identity Nexus.” *Strategic Organization*, 15(1), 113–116. <https://doi.org/10.1177/1476127017692490>
- Rayna, T., & Striukova, L. (2016). From rapid prototyping to home fabrication: How 3D printing is changing business model innovation. *Technological Forecasting and Social Change*, 102, 214–224. <https://doi.org/10.1016/j.techfore.2015.07.023>

- Reinecke, J., & Ansari, S. (Shaz). (2017). Time, temporality and process studies. In A. Langley & H. Tsoukas (Eds.), *The Sage handbook of process organization studies* (pp. 402–416). SAGE Publications Ltd.
- Rochet, J.-C., & Tirole, J. (2003). Platform Competition in Two-Sided Markets. *Journal of the European Economic Association*, 1(4), 990–1029. <https://doi.org/10.1162/154247603322493212>
- Röder, M., Both, A., & Hinneburg, A. (2015). Exploring the space of topic coherence measures. *Proceedings of the Eighth ACM International Conference on Web Search and Data Mining - WSDM '15*, 399–408. <https://doi.org/10.1145/2684822.2685324>
- Rothaermel, F. T. (2001). Complementary assets, strategic alliances, and the incumbent's advantage: An empirical study of industry and firm effects in the biopharmaceutical industry. *Research Policy*, 30(8), 1235–1251. [https://doi.org/10.1016/S0048-7333\(00\)00142-6](https://doi.org/10.1016/S0048-7333(00)00142-6)
- Saldaña, J. (2011). *Fundamentals of qualitative research*. Oxford University Press.
- Saldaña, J. (2016). *The coding manual for qualitative researchers* (3rd ed.). SAGE.
- Samavi, R., Yu, E., & Topaloglou, T. (2009). Strategic reasoning about business models: A conceptual modeling approach. *Information Systems and E-Business Management*, 7(2), 171–198. <https://doi.org/10.1007/s10257-008-0079-z>
- Sandberg, J., & Tsoukas, H. (2015). Making sense of the sensemaking perspective: Its constituents, limitations, and opportunities for further development. *Journal of Organizational Behavior*, 36(S1), S6–S32. <https://doi.org/10.1002/job.1937>
- Sandström, C., Berglund, H., & Magnusson, M. (2014). Symmetric Assumptions in the Theory of Disruptive Innovation: Theoretical and Managerial Implications: Symmetric Assumptions in the Theory of Disruptive Innovation. *Creativity and Innovation Management*, 23(4), 472–483. <https://doi.org/10.1111/caim.12092>

- Sandström, C., Magnusson, M., & Jörnmark, J. (2009). Exploring Factors Influencing Incumbents' Response to Disruptive Innovation. *Creativity and Innovation Management*, 18(1), 8–15. <https://doi.org/10.1111/j.1467-8691.2009.00507.x>
- Saunders, C., Van Slyke, C., & Vogel, D. R. (2004). My time or yours? Managing time visions in global virtual teams. *Academy of Management Perspectives*, 18(1), 19–37. <https://doi.org/10.5465/ame.2004.12691177>
- Schilling, M. A. (2002). Technology success and failure in winner-take-all markets: The impact of learning orientation, timing, and network externalities. *Academy of Management Journal*, 45(2), 387–398. <https://doi.org/10.2307/3069353>
- Schmidt, G. M., & Druehl, C. T. (2008). When Is a Disruptive Innovation Disruptive? *Journal of Product Innovation Management*, 25(4), 347–369. <https://doi.org/10.1111/j.1540-5885.2008.00306.x>
- Schmiedel, T., Müller, O., & vom Brocke, J. (2019). Topic modeling as a strategy of inquiry in organizational research: A tutorial with an application example on organizational culture. *Organizational Research Methods*, 22(4), 941–968. <https://doi.org/10.1177/1094428118773858>
- Schreier, M. (2012). *Qualitative Content Analysis in Practice*. SAGE.
- Schreyögg, G., & Sydow, J. (2010). Crossroads—Organizing for fluidity? Dilemmas of new organizational forms. *Organization Science*, 21(6), 1251–1262. <https://doi.org/10.1287/orsc.1100.0561>
- Schreyögg, G., Sydow, J., & Holtmann, P. (2011). How history matters in organisations: The case of path dependence. *Management & Organizational History*, 6(1), 81–100. <https://doi.org/10.1177/1744935910387030>
- Schroeder, R., Van de Ven, A. H., Scudder, G., & Polley, D. (1986). Managing innovation and change processes: Findings from the Minnesota innovation research program. *Agribusiness*, 2(4), 501–523. [https://doi.org/10.1002/1520-6297\(198624\)2:4<501::AID-AGR2720020412>3.0.CO;2-G](https://doi.org/10.1002/1520-6297(198624)2:4<501::AID-AGR2720020412>3.0.CO;2-G)

- Schultz, M., & Hernes, T. (2013). A Temporal Perspective on Organizational Identity. *Organization Science*, 24(1), 1–21. <https://doi.org/10.1287/orsc.1110.0731>
- Schultz, M., & Hernes, T. (2019). Temporal interplay between strategy and identity: Punctuated, subsumed, and sustained modes. *Strategic Organization*, 147612701984383. <https://doi.org/10.1177/1476127019843834>
- Schumpeter, J. A. (1942). *Capitalism, Socialism, and Democracy: Vol. 2nd edition*. Harper & Brothers Publishers.
- Silverman, B. S., & Baum, J. A. C. (2002). Alliance-based competitive dynamics. *Academy of Management Journal*, 45(4), 791–806. <https://doi.org/10.2307/3069312>
- Slywotzky, A. J., Christensen, C. M., Tedlow, R. S., & Carr, N. G. (2000). The future of commerce. *Harvard Business Review*, 78(1), 39–53.
- Snihur, Y., Thomas, L. D. W., & Burgelman, R. A. (2018). An Ecosystem-Level Process Model of Business Model Disruption: The Disruptor's Gambit. *Journal of Management Studies*, 55(7), 1278–1316. <https://doi.org/10.1111/joms.12343>
- Sood, A., & Tellis, G. J. (2011). Demystifying Disruption: A New Model for Understanding and Predicting Disruptive Technologies. *Marketing Science*, 30(2), 339–354. <https://doi.org/10.1287/mksc.1100.0617>
- Sorenson, O., & Stuart, T. E. (2001). Syndication Networks and the Spatial Distribution of Venture Capital Investments. *American Journal of Sociology*, 106(6), 1546–1588. <https://doi.org/10.1086/321301>
- Srivastava, M. K., & Gnyawali, D. R. (2011). When Do Relational Resources Matter? Leveraging Portfolio Technological Resources for Breakthrough Innovation. *Academy of Management Journal*, 54(4), 797–810. <https://doi.org/10.5465/amj.2011.64870140>

- Statista. (2019). • *Petrol stations in Germany 1950-2019* | Statista. <https://www.statista.com/statistics/525544/number-of-petrol-fuel-filling-stations-in-germany/>
- Stinchcombe, A. L. (1965). Social structure and organizations. *Handbook of Organizations*, 7, 142–193.
- Stoeckli, E., Dremel, C., & Uebernickel, F. (2018). Exploring characteristics and transformational capabilities of InsurTech innovations to understand insurance value creation in a digital world. *Electronic Markets*, 28(3), 287–305. <https://doi.org/10.1007/s12525-018-0304-7>
- Strauss, A. L., & Corbin, J. M. (1990). *Basics of qualitative research: Grounded theory procedures and techniques*. Sage Publications.
- Stuart, T. E. (1998). Network Positions and Propensities to Collaborate: An Investigation of Strategic Alliance Formation in a High-Technology Industry. *Administrative Science Quarterly*, 43(3), 668–698. <https://doi.org/10.2307/2393679>
- Sydow, J., Schreyögg, G., & Koch, J. (2009). Organizational Path Dependence: Opening the Black Box. *Academy of Management Review*, 34(4), 689–709. <https://doi.org/10.5465/amr.34.4.zok689>
- Teece, D. J. (1986). Profiting from technological innovation: Implications for integration, collaboration, licensing and public policy. *Research Policy*, 15(6), 285–305. [https://doi.org/10.1016/0048-7333\(86\)90027-2](https://doi.org/10.1016/0048-7333(86)90027-2)
- Teece, D. J. (2010). Business Models, Business Strategy and Innovation. *Long Range Planning*, 43(2–3), 172–194. <https://doi.org/10.1016/j.lrp.2009.07.003>
- Teece, D. J. (2017). Dynamic capabilities and (digital) platform lifecycles. In J. Furman, A. Gawer, B. S. Silverman, & S. Stern (Eds.), *Advances in Strategic Management* (Vol. 37, pp. 211–225). Emerald Publishing Limited. <https://doi.org/10.1108/S0742-332220170000037008>

- Teece, D. J. (2018). Business models and dynamic capabilities. *Long Range Planning*, 51(1), 40–49. <https://doi.org/10.1016/j.lrp.2017.06.007>
- Tellis, G. J. (2006). Disruptive Technology or Visionary Leadership?*. *Journal of Product Innovation Management*, 23(1), 34–38. <https://doi.org/10.1111/j.1540-5885.2005.00179.x>
- Thompson, M. (2011). Ontological shift or ontological drift? Reality claims, epistemological frameworks, and theory generation in organization studies. *Academy of Management Review*, 36(4), 754–773. <https://doi.org/10.5465/amr.2010.0070>
- Trabucchi, D., & Buganza, T. (2019). Fostering digital platform innovation: From two to multi-sided platforms. *Creativity and Innovation Management*, 1–14. <https://doi.org/10.1111/caim.12320>
- Trabucchi, D., Talenti, L., & Buganza, T. (2019). How do Big Bang Disruptors look like? A Business Model perspective. *Technological Forecasting and Social Change*, 141, 330–340. <https://doi.org/10.1016/j.techfore.2019.01.009>
- Tranfield, D., Denyer, D., & Smart, P. (2003). Towards a Methodology for Developing Evidence-Informed Management Knowledge by Means of Systematic Review. *British Journal of Management*, 14(3), 207–222. <https://doi.org/10.1111/1467-8551.00375>
- Tripsas, M. (2009). Technology, Identity, and Inertia Through the Lens of “The Digital Photography Company.” *Organization Science*, 20(2), 441–460. <https://doi.org/10.1287/orsc.1080.0419>
- Tripsas, M., & Gavetti, G. (2000). Capabilities, cognition, and inertia: Evidence from digital imaging. *Strategic Management Journal*, 21(10–11), 1147–1161. [https://doi.org/10.1002/1097-0266\(200010/11\)21:10/11<1147::AID-SMJ128>3.0.CO;2-R](https://doi.org/10.1002/1097-0266(200010/11)21:10/11<1147::AID-SMJ128>3.0.CO;2-R)
- Tsoukas, H. (1996). The firm as a distributed knowledge system: A constructionist approach: The Firm as a Distributed Knowledge System. *Strategic Management Journal*, 17(S2), 11–25. <https://doi.org/10.1002/smj.4250171104>

- Tsoukas, H. (2005). *Complex knowledge: Studies in organizational epistemology*. Oxford University Press.
- Tsoukas, H. (2017). Don't Simplify, Complexify: From Disjunctive to Conjunctive Theorizing in Organization and Management Studies. *Journal of Management Studies*, 54(2), 132–153. <https://doi.org/10.1111/joms.12219>
- Tsoukas, H., & Chia, R. (2002). On Organizational Becoming: Rethinking Organizational Change. *Organization Science*, 13(5), 567–582. <https://doi.org/10.1287/orsc.13.5.567.7810>
- Tushman, M. L., & Anderson, P. (1986). Technological Discontinuities and Organizational Environments. *Administrative Science Quarterly*, 31(3), 439–465. <https://doi.org/10.2307/2392832>
- Usher, A. P. (1954). *A history of mechanical inventions*. Harvard University Press.
- Van Alstyne, M., Parker, G. G., & Choudary, S. P. (2016). Pipelines, platforms, and the new rules of strategy. *Harvard Business Review*, 94(4), 54–62.
- Van de Ven, A. H. (1992). Suggestions for studying strategy process: A research note. *Strategic Management Journal*, 13(S1), 169–188. <https://doi.org/10.1002/smj.4250131013>
- Van de Ven, A. H. (2007). *Engaged scholarship: A guide for organizational and social research*. Oxford University Press on Demand.
- Van de Ven, A. H. (2017). The innovation journey: You can't control it, but you can learn to maneuver it. *Innovation*, 19(1), 39–42. <https://doi.org/10.1080/14479338.2016.1256780>
- Van de Ven, A. H., Polley, D., Garud, R., & Venkataraman, S. (1999). *The Innovation Journey*. Oxford University Press.
- Van de Ven, A. H., & Poole, M. S. (2005). Alternative Approaches for Studying Organizational Change. *Organization Studies*, 26(9), 1377–1404. <https://doi.org/10.1177/0170840605056907>
- Van Orden, J., van der Rhee, B., & Schmidt, G. M. (2011). Encroachment Patterns of the “Best Products” from the Last Decade*. *Journal of Product*

- Innovation Management*, 726–743. <https://doi.org/10.1111/j.1540-5885.2011.00834.x>
- VDA. (2019). *Organization*. <http://vda.de>
- Von Pechmann, F., Midler, C., Maniak, R., & Charue-Duboc, F. (2015). Managing systemic and disruptive innovation: Lessons from the Renault Zero Emission Initiative. *Industrial and Corporate Change*, 24(3), 677–695. <https://doi.org/10.1093/icc/dtv018>
- Wassmer, U. (2010). Alliance Portfolios: A Review and Research Agenda. *Journal of Management*, 36(1), 141–171. <https://doi.org/10.1177/0149206308328484>
- Weick, K. E. (1995). *Sensemaking in organizations*. Sage Publications.
- West, J. (2003). How open is open enough? *Research Policy*, 32(7), 1259–1285. [https://doi.org/10.1016/S0048-7333\(03\)00052-0](https://doi.org/10.1016/S0048-7333(03)00052-0)
- Whetten, D. A., & Mackey, A. (2002). A Social Actor Conception of Organizational Identity and Its Implications for the Study of Organizational Reputation. *Business & Society*, 41(4), 393–414. <https://doi.org/10.1177/0007650302238775>
- Wiebe, E. (2010). Temporal Sensemaking: Managers' Use of Time to Frame Organizational Change. In T. Hernes & S. Maitlis (Eds.), *Process, Sensemaking, and Organizing* (pp. 213–241). Oxford University Press. <https://doi.org/10.1093/acprof:oso/9780199594566.003.0011>
- WSJ. (2018). *From Horseless Carriage to Driverless Car—CIO Journal*. <https://blogs.wsj.com/cio/2018/06/01/from-horseless-carriage-to-driverless-car/>
- WSJ. (2019a). The Digital Revolution Comes for Banking. *WSJ*. <https://blogs.wsj.com/cio/2019/06/28/the-digital-revolution-comes-for-banking/>

- WSJ. (2020). Visa to Pay \$5.3 Billion for Fintech Startup. *Wall Street Journal*.
<https://www.wsj.com/articles/visa-nears-deal-to-buy-fintech-startup-plaid-11578948426>
- WSJ, T. E. (2019b). Opinion | Making Room for Airbnb. *Wall Street Journal*.
<https://www.wsj.com/articles/making-room-for-airbnb-11558394000>
- Yin, E., Ansari, S. (Shaz), & Akhtar, N. (2017). Radical Innovation, Paradigm Shift and Incumbent's Dilemma: The Case of the Auto Industry. *Future Studies Research Journal: Trends and Strategies*, 9(1), 138–148.
<https://doi.org/10.24023/FutureJournal/2175-5825/2017.v9i1.301>
- Yin, R. K. (1984). *Case study research: Design and methods*. Sage Publications.
- Yin, R. K. (2012). *Applications of Case Study Research*. SAGE Publications.
- Yu, D., & Hang, C. C. (2010). A Reflective Review of Disruptive Innovation Theory. *International Journal of Management Reviews*, 12(4), 435–452.
<https://doi.org/10.1111/j.1468-2370.2009.00272.x>
- Zeier Röschmann, A. (2018). Digital insurance brokers—old wine in new bottles? How digital brokers create value. *Zeitschrift Für Die Gesamte Versicherungswissenschaft*. <https://doi.org/10.1007/s12297-018-0413-6>
- Zhao, E. Y., Fisher, G., Lounsbury, M., & Miller, D. (2017). Optimal distinctiveness: Broadening the interface between institutional theory and strategic management: Optimal distinctiveness. *Strategic Management Journal*, 38(1), 93–113. <https://doi.org/10.1002/smj.2589>
- Zhao, W. X., Jiang, J., Weng, J., He, J., Lim, E.-P., Yan, H., & Li, X. (2011). Comparing Twitter and traditional media using topic models. In P. Clough, C. Foley, C. Gurrin, G. J. F. Jones, W. Kraaij, H. Lee, & V. Mudoch (Eds.), *Advances in Information Retrieval* (Vol. 6611, pp. 338–349). Springer Berlin Heidelberg. https://doi.org/10.1007/978-3-642-20161-5_34
- Zietsma, C., Ruebottom, T., & Slade Shantz, A. (2018). Unobtrusive Maintenance: Temporal Complexity, Latent Category Control and the Stalled Emergence

- of the Cleantech Sector. *Journal of Management Studies*, 55(7), 1242–1277.
<https://doi.org/10.1111/joms.12350>
- Zimmermann, G. (Ed.). (2015). *Change Management in Versicherungsunternehmen: Die Zukunft der Assekuranz erfolgreich gestalten*. Springer Gabler.
- Zott, C., & Amit, R. (2010). Business Model Design: An Activity System Perspective. *Long Range Planning*, 43(2–3), 216–226.
<https://doi.org/10.1016/j.lrp.2009.07.004>
- Zott, C., Amit, R., & Donlevy, J. (2000). Strategies for value creation in e-commerce: *European Management Journal*, 18(5), 463–475.
[https://doi.org/10.1016/S0263-2373\(00\)00036-0](https://doi.org/10.1016/S0263-2373(00)00036-0)
- Zott, C., Amit, R., & Massa, L. (2011). The Business Model: Recent Developments and Future Research. *Journal of Management*, 37(4), 1019–1042.
<https://doi.org/10.1177/0149206311406265>

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Disruptive innovations have been observed to occur in a variety of industries at an ever-increasing pace. Researchers and practitioners alike have announced an era of continual disruption in which entrants thrive while incumbents are challenged to respond to survive. Previous literature has described how disruptive innovations emerge in the niche and disrupt in the mainstream market and has greatly advanced our understanding of incumbents' failure in the face of this type of innovation. However, we miss an understanding of its unfolding over time. Specifically, we miss an understanding of how entrants perform and how incumbents respond to disruption.

To this end, this dissertation studies the dynamics in between niche and mainstream market and explores how entrants successfully steer along a disruptive path and how incumbents succeed in continued strategic renewal to respond to potential disruption. The findings pinpoint a set of strategies that show how disruptive new entrants use the power of unaffected partners to overcome competitive and contextual tensions and that incumbents evoke strong narratives that make their exploration into the future appear as a legitimate and coherent extension of the past that allows sensemaking in the present.

This dissertation develops our understanding of how disruptive innovations emerge, develop, and grow over time and provides relevant implications for managers of entrant and incumbent firms who seek advice on how to manage in an era of continual disruption.

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